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CONTENTS.

	PAGE.
OINTS FOR PRODUCERS	870-875
NQUIRY DEPARTMENT..	876-880
XPERIMENTAL FARM HARVEST REPORT, 1922-23, EYRE PENINSULA.. ..	881-896
HE AGRICULTURAL BUREAU OF SOUTH AUSTRALIA—CONFERENCES OF YORKE PENINSULA AND LOWER NORTH BRANCHES	897-904
RCHARD NOTES FOR SOUTHERN DISTRICTS	904
DVISORY BOARD OF AGRICULTURE	905-908
IVER MURRAY HERD TESTING ASSOCIATION	908
OUNT GAMBIER AND DISTRICT HERD TESTING ASSOCIATION	909
HE AGRICULTURAL OUTLOOK	910
AIRY AND FARM PRODUCE MARKETS	910-912
AINFALL	913-914
GRICULTURAL BUREAU REPORTS	915-936

All communications to be addressed:
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G. F. JENKINS,
Minister of Agriculture.

POINTS FOR PRODUCERS.

Harvest Report of the Government Experimental Farm, Booborowie.

The report of the 1922-1923 harvest of the Government Experimental Farm, Booborowie, has now been made available by the Department of Agriculture. This farm is situated 120 miles north of Adelaide. It is 1,344 acres in area, and has an altitude of from 1,200ft. to 2,000ft. above sea level. It consists of two blocks, one, the old North Booborowie homestead, is high land, running to the highest point in Brown's Hill Range, and containing 1,046 acres; the other is situated two miles from the homestead, and contains 298 acres of comparatively level land, which in times of heavy rains is flooded by water from the Tumela Creek. The farm is situated in the centre of a very good district, which contains land suitable for:—(1) Cereal growing; (2) lucerne growing without irrigation; and (3) some good grazing land not arable. Typical cereal growing land and grazing land constitute the farm, but it includes none of the first-class lucerne growing land, of which many thousands of acres are to be found in the district.

Season.—The total rainfall experienced during the year, namely, 20.32in., as compared with the average for the past 22 years, 17.45in., was satisfactory. The useful rain (*i.e.* the fall between April and November) was 15.61in., as compared with 14.47in. since 1900. The distribution, however, was not all that could be desired. Continuous rain during May interfered with seeding operations. From September to the end of November the rainfall was scanty, a circumstance which detrimentally affected the crops. A fall of 2.24in. during December bleached the grain, and hindered the harvesting operations.

Crops.—The product of 19.75 acres sown to Federation wheat was ensiled. The yield from this area was 75 tons, an average of 3 tons 15cwts. 106lbs. per acre. Cereal hay was cut from 88.38 acres. The total return was 168 tons, an average of 1 ton 18cwts. 2lbs. per acre; this is below the average for the past 11 years, viz., 2 tons 1cwt. 95lbs. Oats for grain were sown on stubble land; 22.89 acres yielded 579bush. 6lbs., an average of 25bush. 12lbs. This return is below the average for the past 10 years, 28bush. 27lbs. Of the two varieties of oats which have been grown each year since 1916, Scotch Grey has yielded 38bush. 24lbs. per acre on the average, and Calcutta 30bush. 1lb. Barley was grown on stubble land, and from 38.53 acres 1.014bush. 35lbs. were harvested, the average return being 26bush. 17lbs., as compared with an average return from barley on this farm for the past eight years of 30bush. 6lbs. All the wheat crops were sown on fallow land. The average yield for the season was 27bush. 32lbs. per acre, the mean yield for the farm for the past 11 years being 24bush. 57lbs. A large proportion of the varieties under test was destroyed by fire on December 23rd. Returns from the wheats harvested were as follows:—Major, 29bush. 48lbs.; Federation, 27bush. 45lbs.; Crossbred 53, 23bush.; Leak's Rustproof, 15bush. 40lbs. For the four-year period, 1919-1922, these particular varieties have averaged as follows:—Major, 33bush. 59lbs.; Federation, 26bush. 7lbs.; Crossbred 53, 22bush. 37lbs.; Leak's Rustproof, 24bush. 27lbs. The experimental

,ork being conducted on this farm includes a series of plots designed 0 test the effect of different manurial dressings; plots devoted to testng different methods of cultivation; and plots on which the effect of ifferent depths of ploughing is being ascertained. Different crop otations are being tested also, in a series of permanent plots laid down n 1915.

haff Act, 1922.

The Chaff Act which came into operation last year makes it obligaory for all persons who deal in chaff to register. Inspectors appointed nder this Act are at present engaged in checking registrations in their espective districts. Dealers are reminded that by failing to register hey render themselves liable to prosecution and to a penalty for each lay that they continue in business unregistered. The Horticultural ranch of the Department of Agriculture, which is responsible for the dministration of the Act, is anxious that all dealers should register as arly as possible, and so render it unnecessary to take any action under he penal clauses of the Act.

ubsoiling Orchard Land.

It is in seasons such as that through which we have just passed that he superficially rooted tree or vine displays its weakness, and this hould impress on all intending planters the need for thoroughly breakng up the soil prior to planting. It is generally recognised in this tate that it is desirable to subsoil land which it is proposed to plant ith fruit trees and vines. The average subsoil breaks best when it is nerely moistened to the crumbling stage. This applies particularly to ubsoils of a clayey nature, in which the draught becomes heavy and he effect less satisfactory when the ground is saturated. In cases in vhich it is proposed to use explosives, the Horticultural Branch of the)epartment of Agriculture recommends that the work should be done vhilst the subsoil is still comparatively dry. This should obviate the ormation of huge pot holes, pugged around the edges, which is likely o happen at a later stage. Land subsoiled with explosives should be ubsequently gone over with a crowbar, an operation which will naterially assist the distribution of moisture and air throughout the oil mass.

opper Carbonate for Bunt Treatment.

Earlier in the year the Department of Agriculture imported a quanity of prepared copper carbonate for the purpose of ascertaining its alue as a "dry pickle" for the control of bunt in wheat. This preparaion is to be tested during the present seeding at the Eyre Peninsula nd Booborowie Experimental Farms. At the Eyre Peninsula farm he seed wheat treated with copper carbonate will be sown in a plot f about 50 acres alongside plots of similar area sown with wheat reated with formalin and bluestone respectively. The seed to be dusted rith copper carbonate is to be treated in a machine which the Departnent of Agriculture has previously used for bluestone pickling. It onsists of a box churn, which has been converted in such a manner as to meet requirements. Into this, 1bush. of wheat and 3ozs. of copper carbonate will be placed, and the box revolved for a period of two minutes, at a pace that will cause the grain to be thrown from side to side. The crops on these plots will be carefully examined just prior to harvest time, and a comparison made of the effect of the different methods of treatment. A similar test is projected on the Booborowie Experimental Farm, except that at this centre copper carbonate and bluestone only will be tried. It is intended that the trials should extend over a period of at least four years.

Retailing Fertilisers.

Under the provisions of the Fertiliser Act of 1918, retailers of fertilisers are required to hand to purchasers an invoice or sale receipt. This should contain a statement of the percentages of the constituents of the fertiliser sold and the weight of the contents of the package. Additionally, if the substance should be a natural fertiliser, such as lime, gypsum, ground phosphatic rock, or bonedust, the percentage of the fine material should also be stated. "Fine material" is described as those particles which will pass through a sieve having circular meshes 1 millimetre (about 1/25th of an inch) in diameter. These particulars must also be set out on the bags or other containers. The Act applies to all sales of fertilisers, whether small lots over the counter, or larger quantities in bulk. The Horticultural Branch of the Department of Agriculture, which is responsible for the administration of this Act, mentions that one enterprising retailer has had a number of gummed labels printed, setting out the particulars required by the Act in respect to such fertilisers as he is handling. When a sale is made he simply attaches one label to the packet, and another to the invoice, filling in the weight in the space left for that purpose.

Stock in Vineyards.

It is quite a common practice in most of the vineyards of this State to turn stock in amongst the vines as soon as the grape harvest has been gathered. In those seasons in which the leaves have practically dried away, and have been blown off the vines by the wind, very little harm results. However, to turn stock in amongst vines on which the foliage is still functioning is a very undesirable practice, in the opinion of the Horticultural Branch of the Department of Agriculture. The reason for this is that the nutriment which is being elaborated in the leaves will, towards the end of the season, be largely utilised by the vines for ripening canes and developing buds from which the next season's crop must arise. This view is supported by the department's observation of vines from which the foliage has been removed by various methods of summer pruning over a number of years. A comparison of the yields of vines so treated with similar vines alongside that have not been subjected to this treatment shows that in every case the defoliaged vines yield crops that diminish progressively year after year. Of course, where the vines are growing in exceptionally rich, deep soils, the effect is less noticeable, but even in such conditions the practice must ultimately have a weakening influence on the plant.

The New International Cultivator-Drill.

ALL FARMERS in wheat-growing areas who do not already own cultivator-drills will purchase these increased crop-producing machines this year or next. These machines not only pay for themselves in greater yields, but make handsome profits besides. Wheat farmers can therefore afford to discard their ordinary grain drills and secure these modern labor-saving and profit-making machines instead. As all buyers have not yet had the opportunity of investigating the important points of construction that influence better crops and simplify operation, we here set out some that the machine you buy should contain.

1 **Make certain that the cultivating tines are attached to two independent sets of floats, two rows of tines to be attached to the front float and two to the rear float, and that each float is operated by a separate lever, so that you can regulate the depth of sowing and cultivating to different depths if desired, or so that you can sow without cultivating. This is the most important point on any cultivator-drill.**

2 **Make certain that the main frame has enough breadth to insure ample clearance between the tines. Farmers in mallee country should have at least 3 feet between the front and rear sets so as to give space for stumps to clear without the operator having to stop the machine and work out the stumps by hand. If the breadth of the main frame is less than 6 feet it would be difficult to secure sufficient clearance. Farmers should satisfy themselves on this point before ordering any make.**

3 **Make certain that there is a regulator on your machine to enable you to change the amount of fertiliser sown while your machine is in motion. Every modern farmer knows that there are parts in most paddocks where a little more or less manure will increase the yield.**

4 **Make certain that the main wheels are higher than usual. They should be at least 4½ft. high, with staggered spokes and wide channel steel tyres.**

5 **Make certain that you have a live axle going through the total width of the machine. It costs the most to build but it adds strength, and insures permanent alignment for the moving parts which means longer life, less delays, and fewer replacements.**

The new International Cultivator-drills

have all the above necessary features and several others of importance, and if you insist on your machine containing these features you can buy no other make. Send us your order. Our guarantee protects you. If, however, you prefer to see one before ordering, call on our local agent and inspect. A careful comparison will satisfy yon that the new International is the one you will want. And remember, the new International is designed as a cultivator-drill—not merely a "conversion" from an ordinary grain driil. Our new pamphlet giving complete description will be mailed free on request.

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Drainage at Berri Orchard.

Portion of the Berri Experimental Orchard has been rendered sterile from the presence of an excess of salt in the soil. An underground drainage scheme has been planned and carried out on the orchard with a view to the gradual removal of the salt. Although the whole drainage scheme was not completed until April 27th, portion of the drains have been functioning since November. A careful record is being kept of the quantities of water flowing from the drains, and analyses are being made from time to time in order to determine the amount of salt that is being removed. The Director of Agriculture states that between November 13th and March 30th the drains discharged, approximately, 142,417galls. of water, which on analysis was shown to have removed from the soil 3 tons 15cwts. 45lbs. of soluble salts, consisting mainly of common salt, 4,393lbs.; glauber salt, 2,394lbs.; magnesium carbonate, 666lbs.; black alkali, 613lbs.; lime, 182lbs. These results are looked upon as satisfactory, but it is hoped that they will be improved upon next year, when the whole of the drainage system will be able to function.

Tetraphosphate.

During the current season the Department of Agriculture is commencing a series of tests with a new form of fertiliser, which it has recently imported. This is known as tetraphosphate, and is a phosphatic fertiliser which, it is claimed, can be manufactured more simply and economically than is the case with other forms. Owing to its basic nature it is assumed that this fertiliser may be used with advantage in districts of heavy rainfall with soils tending to acidity. At the Government Experimental Farm at Kybybolite the fertiliser will be tested in a series of pasture plots, and also on maize under irrigation. For the purpose of ascertaining the value of tetraphosphate as a dressing for natural pasture land the following plots have been laid out:—

(*a*) Four-acre plot to receive 1cwt. tetraphosphate per acre per annum for five years.
(*b*) Four-acre plot to receive 5cwts. tetraphosphate per acre; no further application, grazing results to be kept for five years.
(*c*) Four-acre plot which, after being dressed with 10cwts. lime per acre, will receive 1cwt. tetraphosphate per acre per annum for five years.
(*d*) Four-acre check plot dressed with 1cwt. mineral super per acre per annum.

As manurial dressing for maize under irrigation, the tetraphosphate, at the rate of 2cwts. per acre, will be tried in comparison with a plot receiving 2cwts. superphosphate. This test, like the others, will be continued over a period of five years. In addition to the tests which are being conducted departmentally, arrangements have been made for small quantities of tetraphosphate to be tried by Mr. G. L. Dean, Kalangadoo; Mr. S. Sheppard, Kybybolite; Mr. R. Smith, Mount Gambier; and the fertiliser will also be submitted for test as a potato manure by Mr. B. Pope at Mount Barker.

French and English Barley.

A number af varieties of barley imported from France and England by the Department of Agriculture were grown last year at Millicent in a series of experimental plots conducted in conjunction with the local Branch of the Agricultural Bureau. The varieties secured from France include Winter Square, Chevalier (French), Albert, Princess of Svalof; and those from England, Pedigree Prize Chevalier, Improved Goldthorpe, Plumage Archers, Beavens Archer. These varieties were selected as being the most productive in the particular country from which they were secured, and barley growers who are anxious to purchase small quantities of seed for trial are advised to communicate with the Department of Agriculture.

Method to be Used in Taking Samples of Soil for Analysis.

Half a dozen holes should be opened with a spade to a depth of, say, 12in. These holes should be opened in all cases in soil similar in character. When the holes have been opened, the surface impurities, such as animal droppings, dead leaves, &c., should be removed and a slice of earth taken to 6in. in depth, to represent the "soil." This slice should be thrown on a clean bag, and then a second slice, representing the second 6in., should be taken out and thrown on another bag, to represent the "subsoil." The same practice should be carried out for every hole, placing the first 6in. with the "soil," and the second 6in. with the "subsoil." When this has been done, the samples representing the "soil" should be carefully mixed, and a couple of pounds taken and placed in a clean box or tin, then the samples representing the "subsoil" should be well mixed, and a second sample of 2lbs. be collected into a box or tin. Each box should be carefully labelled "soil" and "subsoil," according to its character. If these samples are forwarded to the Department of Agriculture an analysis will be carried out. Accompanying the samples, full details concerning yields and general agricultural points of the soil should be forwarded.

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INQUIRY DEPARTMENT.

Any questions relating to methods of agriculture, horticulture, viticulture, dairying, &c., diseases of stock and poultry, insect and fungoid pests, the export of produce, and similar subjects, will be referred to the Government experts, and replies will be published in these pages for the benefit of producers generally. The name and address of the inquirer must accompany each question. Inquiries received from the question-boxes established by Branches of the Agricultural Bureau will be similarly dealt with. All correspondence should be addressed to "The Editor, *The Journal of Agriculture*, Adelaide."

[Replies supplied by C. A. LOXTON, B.V.Sc., Government Veterinary Surgeon.]

"E. G. T.," Willow Plains, asks treatment for mare with a fleshy growth in the corner of the eye.

Reply—The only treatment which I can recommend is the surgical removal of the growth. The condition is not infectious.

"J. J. C.," Coonalpyn, has horse which has badly torn the side of one of the eyeballs. A piece of flesh is projecting from the centre of the eyeball.

Reply—You can remove the projecting piece of tissue with a sharp pair of scissors. You should be able to do this without casting the horse if you put a twitch on its upper lip. Do not use any more medicated oil. Apply warm foments of boracic lotion, made by dissolving 2ozs. of boracic acid to a gallon of water. Put the horse in a loosebox and give it slop diet for a few days.

Hon. Secretary, Weavers Agricultural Bureau, reports foal with swelling and puffiness and stiffness of the joints and wasting.

Reply—These are symptoms of parasitic anaemia, to which young animals are particularly susceptible. I would suggest that you forward to this Department a few pellets of dung for microscopic examination, also that you examine the droppings from time to time for the presence of worms. I should point out, however, that you may not find any worms in the dung, though the foal is badly infested.

"W. W.," Tantanoola, forwarded worms for identification.

The Chief Inspector of Stock (Mr. T. H. Williams) has supplied the following information:—The worms found in the trachea of the calf are the lung worm *Strongylus filaria*. The worms occur in all wet districts, and are found in sheep, cattle, and horses. I found them in calves at Tantanoola over 30 years ago. Young stock should be kept off swampy, low-lying pastures, and their water supply should be from wells. Adult animals die of lung worms if kept too long on swampy pasture. Many of the old stockowners classed this form of trouble as "coast disease" at one time.

Hon. Secretary, Agricultural Bureau, Ki Ki, reports cow, seven days after calving, udder very swollen, milk flow practically ceased within 24 hours. Slight watery discharge, tinged with blood, from affected quarter.

Reply—Apply warm foments, plenty of gentle hand massage. Strip out affected quarter frequently. Rub with camphorated oil.

"B. T.," Veitch, asks—(1) Minimum and maximum doses for horses of sweet spirits of nitre and bitter aloes, aconite, and belladonna, and the time to elapse between doses; (2) should anything be added to aloes when used as a purgative; (3) a purgative for stoppage; (4) should horses be bled after being gorged with wheat; if not, can you suggest a remedy?

Replies—(1) The maximum and minimum doses for the horse of:—Tincture aconite, ⅛ to ½ dram (10 drops to half-teaspoonful); tincture belladonna, 4 to 8 drams. (one to two tablespoonsful; sweet spirits of nitre, 1oz. to 3ozs. (two to

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six tablespoonsful); aloes barb., ½oz. to 1oz. An interval of three or four hours. It is not desirable to use aconite continuously, on account of its depressing action. Belladonna is used in special inflammations, such as those affecting the throat, stomach, bladder, and bronchi. There is a wide range of medicine for reducing fever. Those most commonly used are quinine, sweet spirits of nitre, nitrate of potash, and sulphate of magnesia. (2) Aloes acts better if combined with belladonna and a little ginger. (3) Try the following drench:—Aromatic spirits of ammonia, 1½ozs.; oil of turpentine, 1½ozs.; raw linseed oil, 1 pint; mix. Give also frequent enemas of warm soapy water. (4) Bleeding is of no use for horses which have eaten wheat. Give bicarbonate of soda, 4ozs., in a pint of water. Repeat in two or three hours. Follow with a full dose of raw linseed oil and frequent enemas of warm soapy water.

"H. R. H.," Murrayville, Victoria, has cow which has had an attack of milk fever and is still unable to rise.

Reply—In all cases where recovery does not take place, inflation of the udder should be repeated in six hours. In a small percentage of cases some unfavorable complication occurs, such as pneumonia from the inspiration of material into the windpipe, permanent paralysis, or the patient may remain in a state of partial coma, and not respond in any way to treatment. The latter cases are usually fatal, or are succeeded by paralysis of the hind legs. In all cases the patient should be kept propped up on the brisket. If allowed to be flat out on the side, they quickly become blown (tympanitic).

"J. W. A.," Pinnaroo, asks for particulars for spraying sheep for blowflies.

Reply—I advise you to use one of the approved arsenical dips, such as Cooper's. The correct strength of this preparation for the purpose is four pints of powder to 10galls. of water. The dip should not, however, be applied as a spray, but by means of a solid jet forced through an ⅛in. nozzle under a pressure of 60lbs. to 120lbs.

Hon. Secretary, Agricultural Bureau, Clarendon, reports horse slobbering: neck is drawn up as though the animal had cramp, squeals with the pain, and passes pus out of the mouth.

Reply—The condition suggests the nearest approach to vomiting which occurs in the horse. This is a somewhat unusual case, and the symptoms are probably due to some stomach derangement. I would advise a careful and restricted diet. Give the following powders:—Soda bicarbonate, 3ozs.; powdered nux vomica, ¾oz.; powdered gentian, 6ozs.; mix. One tablespoonful twice daily in the feed.

"F. R.," Angaston, has cow with dysentery, off feed, and is constantly chewing bones.

Reply—It is possible that this is due to her habit of chewing bones, under which circumstances cows sometimes swallow foreign bodies with serious results. Give her chlorodyne, 2oz., in a half-pint of warm water, and follow with half this quantity three times daily. Put her in a sheltered yard or shed and keep her quiet. Diet her carefully and give her linseed tea or other demulcent drinks.

[Replies supplied by F. MURRAY JONES, B.V.Sc., M.R.C.V.S., Assistant Government Veterinary Surgeon.]

"W. F. F.," Narridy, reports aged mare with swollen lips and in low condition.

Reply—First examine the teeth carefully, and if irregular have them dressed with a dental rasp. Also examine the lip inside for the presence of a foreign body, such as thistles, &c. Administer 8ozs. raw linseed oil, 1oz. turpentine; give as a drench, repeat in five days. Afterwards follow with Fowler's solution of arsenic in daily doses of one tablespoonful in the food.

Hon. Secretary, Agricultural Bureau, Coomandook, reports:—(1) Horse with running sore on top of the neck, about 4in. from the ears; (2) three-year-old horse with lump below the eye; (3) suitable book of veterinary work.

Replies—(1) From your description your animal is suffering from a condition known as "poll evil." This is a very difficult condition to treat. Treatment is largely of a surgical nature. When pus has formed, adequate openings must be made for its evacuation. Having opened the part to get free drainage, irrigate with a warm salt water solution. Afterwards using a disinfectant, such as lysol, diluted. Sometimes the bone itself is injured, and this requires special surgical attention, which I would not advise you to attempt. 2—Three-year-old horse with lump below the eye. If this lump has not interfered with the animal's sight or usefulness, I would not advise you to interfere with it, unless you can obtain skilled attention. Reply 3—The most suitable book that I can recommend is that of Capt. Hayes, "Horse Management," seventh edition.

"T. B. F.," Alawoona, reports four-year-old horse with severe injury to hock through being caught in step of sulky. The leg is swollen from fetlock to hock.

Reply—The swelling is likely to remain persistent for a time. I would advise you to massage the part between the fetlock and the hock with a mixture consisting of equal parts of vinegar and salad oil. Repeat this often. After the wound has completely healed a mild blister, such as the following, should be applied:—Red mercury, ½ dram; lard, 1oz. To be rubbed in for 15mins. The next day smear over with salad oil. The animal must be tied whilst the blister is active. It would be advisable to give bran or to place Epsom salts in the feed.

Hon. Secretary, Agricultural Bureau, Kongorong, reports three cows off feed, stiff in front legs, jaws stiff, animals unable to chew, and the tongues hang out of the mouths.

Reply—I am inclined to think that the deaths have been due to a condition known as toxaemic paralysis. As a rule there are two distinct forms of this disease. One, known as the acute stage, in which the animal ails for a short time and then succumbs, showing all the symptoms that you have enumerated. On the other hand, a more chronic form is observed, where the animals linger for weeks, perhaps, showing lameness, paralysis, and emaciation, followed by death. The disease is contracted as the result of animals chewing bones of animals that have died, or grazing over areas where dead animals have been allowed to lie. Treatment recommended when noticed in the beginning is to change the pasture, feed sweet bonemeal, and the administration of strychnine in the form of powdered nux vomica, one teaspoonful in treacle to be placed on the tongue once daily. Treatment, however, when the disease is established is not very hopeful.

Hon. Secretary, Agricultural Bureau, Frances, reports cow with lump in the region of jaws.

Reply—The exact cause could only be satisfactorily explained after a personal examination has been made. Any lump in the situation above described should be regarded with suspicion. A lump in this region may be due to one of many causes, such as tuberculosis, antinomycosis (cancer), or, on the other hand, it may be due to the presence of a foreign body. In the event of it being due to the presence of a foreign body the proper thing would be the application of a blister, and afterwards opening when the abscess is ripe, and irrigating out with any suitable disinfectant.

"W. H.," Cleve, reports—(1) 3½-year-old gelding, after travelling a journey, has temporary stoppage of water and attack of scours; (2) foal, 6 months old, with lump size of an egg under the belly.

Replies—(1) I would advise you to give half-pint raw linseed oil and ½oz. turpentine as a drench. Omit oats from feed, and feed a little bran in its place. The oil may be repeated in four or five days time. (2) Foal suffering with a ventral hernia. I would advise you to turn the animal on its back, carefully examine the swelling with the fingers, with a view of reducing the swelling. If this is possible, and the skin is found to be freely movable, I would pass a piece of wax thread around the spare skin, tying very tightly; leave this on until the skin sloughs off. This will act as a natural bandage. Sometimes the contents of the swelling is not reducible by this method. If this is so, a special operation of dividing the skin and replacing the contents within the cavity is attempted. This operation requires special skill. I would advise you to try the first method.

"J. S. M.," Mindarie, reports cow, recently calved, now unable to stand. Fair appetite, swollen udder, and labored breathing.

Reply—First assure yourself that she has properly cleaned after calving, by examination. Inject into the passage a solution of permanganate of potash, gall. twice daily, strength to be that of a light wine color. If you have not a proper syringe, use a piece of garden hose, about 3ft. long; lubricate the end to be passed into the cow. The liquid can be poured through the funnel, which can be held high above the back. Give the following in the form of a drench:—12ozs. Epsom salts, 1oz. ginger, 4ozs. treacle, 1 pint lukewarm water.

Hon. Secretary, Agricultural Bureau, Beetaloo Valley, asks what symptoms of disease or disorder horses would show after being gorged with oats.

Reply—The symptoms shown would probably be those of uneasiness, colic, distension of abdomen, the animal showing a tendency to throw itself down, then arising, and sweating profusely. Treatment: Allow the animal access to water. Administer 1 pint raw linseed oil, 1oz. turpentine. Copious use of soapy water injections and dose of 2ozs. of carbonate of soda in a pint of water.

"A. E.," Port Westall, reports death of two cows, in milk. Appeared as though suffering with rheumatism. Slime issuing from the mouth and breathing very short and labored. Death occurred in six days.

Reply—I gather that your losses were due to what is known as toxaemic paralysis. This is at any time a very unsatisfactory condition. I would advise you, in the event of any further cases, to give a teaspoonful of powdered nux vomica mixed with treacle and placed on tongue twice a day. In addition, give 16ozs. Epsom salts, 1oz. ginger, 4ozs. treacle. and 1 pint water as a drench.

"C. E. W.," Littlehampton, asks whether any harmful result will affect cows eating wattle leaves.

Reply—We have no evidence of any ill-effects of wattle leaves following ingestion by cattle.

"S. Bros.," Steelton, have 7-year-old gelding rolling with symptoms of colic. A proprietary drench was given, but only temporary relief was obtained. The symptoms of colic returned each time after the horse was given a drink.

Reply—The horse has impaction of the bowel. Give the following drench:—Turpentine, 2ozs.; aromatic spirits of ammonia, 2ozs.; raw linseed oil, 1½ pints; mix. (Dose for a heavy horse.) This drench is more effective with the aromatic spirits of ammonia, but do not delay giving the drench without it if not available. Frequent enemas of warm soapy water should be given, and may be administered by means of a short length of ½in. or ¾in. garden hose and a tin funnel, carefully inserted in the passage, and the fluid allowed to enter the bowel by gravitation. Use 3galls. or 4galls. of fluid for an enema. If the desired effect is not obtained, follow with the mixture:—Tinct. nux vomica, ½oz.: aromatic spirits of ammonia, 1½ozs., in a pint of water, three times a day. Restricted diet is also necessary. Encourage the patient to drink freely. Give Epsom salts, 2ozs., twice daily in mash or drinking water. Allow only laxative diet until the action of the bowels is re-established.

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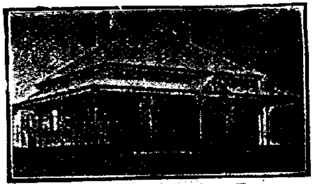
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EXPERIMENTAL FARM HARVEST REPORT, 1922-23.

EYRE PENINSULA EXPERIMENTAL FARM.

[By ROWLAND HILL, Manager.]

This farm consists of 3,041 acres, comprising sections 26, 27, and 28, in the hundred of Minnipa, and is situated 158 miles north of Port Lincoln, on the Port Lincoln to Cape Thevenard railway. It is fairly centrally placed in relation to the whole of Eyre Peninsula, and it is the point from which departmental activities in agricultural matters on that vast stretch of arable land will proceed. The greater part of the farm will be arable when the natural growth is removed. It consists of soils varying from light-colored, light-textured sands, carrying broombush and porcupine, to heavy, calcareous soils, with a tendency to run together and set hard. The bulk of this land is between these two extremes, and consists of calcareous soils of medium texture, carrying naturally big mallees and large bushes as an undergrowth. The land which has been used for cultivation on this farm has been grubbed, and so freed practically of all stumps and roots.

At the present time there are approximately 1,200 acres of this land cleared, and additions are being made to this annually.

The above-mentioned sections were dedicated a reserve for agricultural purposes in November, 1914, and work was commenced and a manager appointed on January 1st, 1915.

THE SEASON, 1922.

During the early stages the season gave promise of a splendid return, all cereals excepting oats coming away splendidly. During September and the early part of October all crops suffered considerably from the continuous, hot, dry winds, but an occasional light fall of rain helped them to fight against this. At the commencement of September prospects of some exceptionally high returns looked very bright, but after about six weeks of such severe conditions the outlook was so altered that I consider we were very fortunate to finish up with such satisfactory yields. A fall of 23 points of rain on October 24th put new life into the crops, with the result that most varieties produced a good sample of grain, with some samples exceptionally well developed.

The total rainfall for the year was 10.07in., which fell during 61 raining days. The useful rainfall, namely, that which fell during the period April-November, was 7.34in., and was distributed over 47 raining days, the heaviest fall being 50 points on July 6th.

The following table sets out in detail the rainfall recorded, together with that registered at the farm since January, 1915:—

Rainfall Distribution at Minnipa, 1915-1922.

	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	Means. 1915-22.
	In.	In.	In.	In.	In.	In.	In.	In.	In.
January	0.74	0.80	2.02	0.46	0.50	1.02	2.69	0.53	1.10
February	0.09	0.04	0.40	0.02	2.49	—	4.69	0.44	1.02
March	0.02	0.44	0.94	0.46	0.02	0.42	3.17	0.04	0.69
April	1.18	0.27	0.42	0.97	0.58	0.43	0.54	0.44	0.60
May	2.03	1.23	2.84	1.14	0.66	2.14	2.14	1.37	1.69
June	1.88	3.67	2.64	1.41	0.74	3.31	2.11	1.10	2.11
July	2.54	3.60	3.08	0.77	0.70	2.15	0.88	2.06	1.97
August	3.57	2.55	3.17	2.68	0.81	2.83	0.78	1.50	2.24
September	0.98	2.33	2.81	0.05	1.32	1.97	0.68	0.50	1.33
October	0.41	1.92	1.46	1.45	0.65	2.05	1.07	0.31	1.17
November	—	1.05	1.58	—	0.11	1.40	0.61	0.08	0.60
December	0.44	0.12	0.33	0.61	1.49	0.36	1.52	1.70	0.82
Totals	13.88	18.02	21.69	10.02	10.07	18.08	20.88	10.07	15.34
Total useful rain, April-November	12.59	16.62	18.00	8.47	5.57	16.28	8.81	7.36	11.71

Distribution of "Useful" Rainfall, Minnipa, 1915-1922.

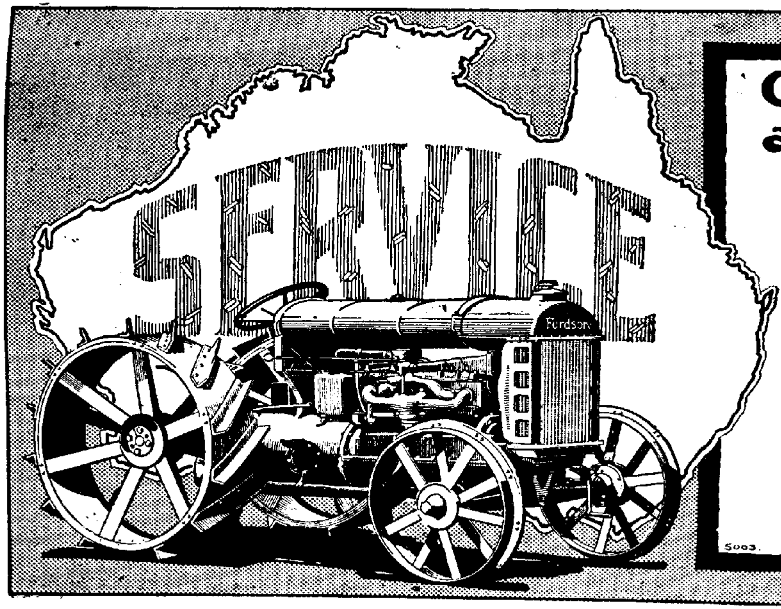
	1922.	Means, 1915-22.
Seeding rains (April-May)	1.81	2.29
Winter rains (June-July)	3.16	4.08
Spring rains (August-October)	2.31	4.74
Early summer rains (November)	0.08	0.60
Totals	7.36	11.71

CROPS.

Seeding operations were commenced on the 17th of April with oats, and completed with barley during the first week in June. Unfortunately, owing to insufficient heavy, soaking rains to germinate "wild mustard" seed on fallowed land, the returns from this land were low, but the average of 16bush. 3lbs. from "new" land is very satisfactory when the season is taken into consideration. The total area cropped for the year, namely, 647.74 acres with cereals, was made up as follows:—

Fallowed land	139.42 acres
Grass land	11.04 acres
Stubble land	30.00 acres
New land	467.28 acres
	647.74 acres

It will be seen that the greater portion cropped was on new land, which, of course, suffered more than the older land during the dry spell. Blighting of heads on ashy patches was very noticeable, and it was a common occurrence to find patches so blighted that half of each head was grainless, whilst the remainder of the head carried splendidly developed grain.



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HAY CROPS, 1922.

The greater part of the old hay having been used, it was necessary this year to cut sufficient to provide a good reserve. With this object in view, 147 tons of hay were cut this year. The heaviest yield of hay was from Early Gluyas on stubble land. This was not intended originally as a hay crop, but seeing that it had made such fine growth, was on stubble, therefore of no use as seed, it was cut for hay, and gave an average of between 35cwts. and 2 tons per acre.

There is no weighbridge available, consequently all hay yields have been estimated by taking careful weights of twine used, and then by checking bulk in the stack by measurement.

Gluyas cut for hay was sown at the rate of 90lbs. seed and 75lbs. superphosphate per acre. This land was stubble, ploughed up in March, then harrowed, rolled, and drilled late in April. All headlands excepting on fallowed land were sown at the rate of 60lbs. seed and 75lbs. superphosphate per acre. In the case of "fallow" headlands 112lbs. of superphosphate were used. Varieties Canaan and Fortune were sown at the rate of 60lbs. seed and 75lbs. superphosphate per acre on new land.

It will be noticed that varieties not recommended for hay have been cut, but owing to blighting in some cases it was considered the better plan to cut these for hay. The yields of hay received from these various crops, together with the farm average for the year, are set out below:—

Hay Yields, Minnipa, 1922.

Variety.	Field.	Area.	Total Yield.			Per Acre.		
		Acres.	T.	C.	LBS.	T.	C.	LBS.
Gluyas (stubble land)	16 & 17	42.21	79	0	0	1	17	48
King's Red and Rajah (headlands)	8 & 9	15.95	20	0	0	1	5	9
King's Red and Mixed (headlands)	15	15.39	14	0	0	0	18	22
Canaan (new land)	8	4.42	4	0	0	0	18	11
Fortune (new land)	8	23.50	21	0	0	0	17	98
King's Red and oats (fallow headlands)	1	10.72	9	0	0	0	16	89
Farm average	—	12.19	47	0	0	1	6	23

Hay Returns, Minnipa, 1915-1922.

Year.	Total Rainfall.	Useful Rainfall.	Area.	Total Yield.			Yield per Acre.		
	In.	In.	Acres.	T.	C.	LBS.	T.	C.	LBS.
1915	13.88	12.59	148	280	0	0	1	17	94
1916	18.02	16.62	2.34	4	0	0	1	14	19
1917	21.69	18.00	47.85	82	10	0	1	14	54
1918	10.02	8.47	30.60	28	0	0		18	34
1919	10.07	5.57	55.13	35	0	0		12	78
1920	18.08	16.28	62.99	165	15	93	2	12	72
1921	20.88	8.81	41.11	56	7	56	1	7	48
1922	10.07	7.36	112.19	147	0	0	1	6	23
Means .	15.34	11.71	—	—			1	10	53

OAT CROPS.

All oat varieties were sown on fallowed land at the rate of 60lbs. seed and 112lbs. of superphosphate per acre. All varieties germinated badly, and, as was the case with wheat on fallow, they were hindered considerably by the growth of mustard. Apart from these factors, the season was against the growth of oats right through; hence the low returns.

In addition to the varieties shown in the following table, small plots of some new varieties were sown, but, unfortunately, the crows made practically a clean sweep of them, hence there would be little gained by showing yields from them. From notice taken of these new varieties during growth, and up to time of maturity, I consider that some of them are going to be rather good varieties for this district. Of these, there is little doubt as to Lachlan being the first in order as a grain oat.

Stark's Hooimaker does not promise as a grain yielder, but should make a really good hay oat. Bathurst Early and Burt's Early also showed up well, promising both as hay and grain yielders. However, until definite yields from these can be procured, I should not like to recommend any of these varieties one against another, although I feel confident that some are going to be valuable to the district.

Yields secured from the varieties of oats grown are shown in the next table, with the farm average for the period:—

Yields of Oat Varieties, Minnipa, 1922.

Variety.	Field.	Area. Acres.	Total Yield. Bush.	Total Yield. lbs.	Yield per Acre. Bush.	Yield per Acre. lbs.
Cape	1A	3.10	60	29	19	24
Algerian	1A	10.90	186	20	17	4
Algerian	1A	1.82	28	29	15	31
Scotch Grey	1A	6.06	88	15	14	23
Algerian	1A	0.87	10	5	11	26
Ruakura	1A	2.29	23	30	10	15
Farm average		25.04	398	8	15	36

Oat Returns, Minnipa 1916-1922.

Year.	Total Rainfall. In.	Useful Rainfall. In.	Area. Acres.	Total Yield. Bush.	Total Yield. lbs.	Yield per Acre. Bush.	Yield per Acre. lbs.
1916	18.02	16.62	49.90	1,987	20	39	33
1917	21.69	18.00	10.39	461	22	44	17
1918	10.02	8.47	21.03	568	12	27	1
1919	10.07	5.57	14.75	85	16	5	32
1920	18.08	16.28	20.92	903	30	43	8
1921	20.88	8.81	15.65	440	2	28	5
1922	10.07	7.36	25.04	398	8	15	36
Means	15.55	11.59	—	—		29	7

Oat Varieties, 1917-1922.

Variety.	1917. bus. lbs.	1918. bus. lbs.	1919. bus. lbs.	1920. bus. lbs.	1921. bus. lbs.	1922. bus. lbs.	Means. 1917-22. bus. lbs.
Scotch Grey	44 35	29 37	15 18	44 3	29 12	14 12	29 2
Algerian.	37 7	25 12	18 29	45 27	31 25	16 23	29 7
Farm average	44 17	27 1	5 32	43 8	28 5	15 36	27 16

Oat Varieties, 1920-1922.

Variety.	1920. Bush. lbs.	1921. Bush. lbs.	1922. Bush. lbs.	1920-22. Bush. lbs.
Cape	48 6	33 24	19 24	33 31
Algerian	45 27	31 25	16 23	31 12
Scotch Grey	44 3	29 12	14 23	29 13
Ruakura	25 22	20 2	10 15	18 26
Farm average	43 8	28 5	15 36	29

BARLEY CROPS.

This season all barley was sown on new land, which was cultivated after clearing, drilled, and then harrowed. The area cropped, namely, 33.63 acres, included four varieties of six-rowed barley—Tunis No. 1, Tunis No. 4, Short Head, and Roseworthy Oregon. Tunis No. 1, which is a very early variety, made wonderful growth, and promised a splendid return, but the dry spell before mentioned pinched it badly. Even though the other varieties were not very much pinched, Tunis No. 1 proved far ahead the best yielder. Short Head took smut very badly, otherwise the return from this variety would have been much higher.

Barley certainly does quite well here, but until a local market is assured for pigs and other livestock I am afraid it will not be grown extensively. Quite a number of farmers are now realising the value of barley for early green feed for their stock, and it is for this purpose that I have sold most of the barley seed this year.

This year the barley crop was sown during the last week in June at the rate of 50lbs. seed per acre and 75lbs. superphosphate.

Yields of Barley Varieties, Minnipa, 1922.

Variety.	Field.	Area.	Total Yield. Bush. lbs.	Per Acre. Bush. lbs.
Tunis 1	No. 15	8.06	204 39	25 20
Roseworthy Oregon ..	No. 15	6.53	123 3	18 42
Short Head	No. 15	8.08	136 10	16 43
Tunis 4..	No. 15	10.96	118 41	10 42
Farm average		33.63	582 43	17 61

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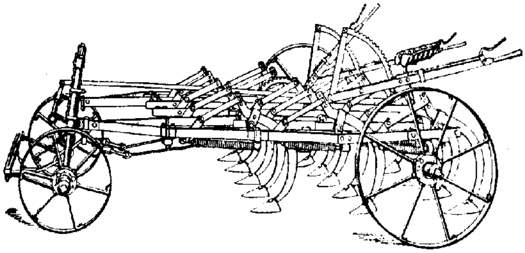

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Barley Yields, Minnipa, 1917-1922.

Year.	Total Rain. In.	Useful Rain. In.	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
1917	21.69	18.00	7.13	233 34	32 39
1918	10.02	8.47	11.85	261 39	22 [illegible]
1919	10.07	5.57	8.07	49 24	6 [illegible]
1920	18.08	16.28	—	—	—
1921	20.88	8.81	10.08	192 1	19 [illegible]
1922	10.07	7.36	33.63	582 43	17 16
Means . .	15.14	10.75	—	—	16 12

RYE CROP.

Only a very small area of rye is cropped annually, to provide seed for green feed and some straw for thatching purposes, and at the same time, of course, to test whether it is at all suitable for this district. Each year the yields have been low, but it usually makes splendid growth of straw. It was sown at the end of June on new land at the rate of 60lbs. seed and 75lbs. superphosphate per acre.

Rye Returns Minnipa, 1917-1922.

Year.	Total Rainfall. In.	Useful Rainfall. In.	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
1917	21.69	18.00	3.86	61 54	16 2
1918	10.02	8.47	2.72	21 36	7 56
1919	10.07	5.55	1.92	2 38	1 22
1920	18.08	16.28	2.02	10 34	5 14
1921	20.88	8.81	1.82	11 44	6 26
1922	10.07	7.36	3.34	46 7	13 48
Means . . .	15.14	10.75	—	—	[illegible]

WHEAT CROPS.

The total area under wheat this year, namely, 472.04 acres, is the largest yet sown on this farm. When it is taken into consideration that a number of varieties, some of which are not suited to the district, are grown to provide seed for other localities, the average yield is quite satisfactory for the season. Yandilla King and Marshall's No. 3, two late wheats, were seeded on April 21st and 22nd on fallow, but germinated very poorly. The field was resown with the only available variety, viz., Currawa, during the second week in July, with the hope of getting some return off of it. This, however, proved a failure, with the result that only a very scanty crop of the first sown wheats was harvested.

The three-quarter-bred King's varieties have again held their own, and of individual yields Emperor has again come out top of the list.

with an average of 20bush. 36lbs. per acre on grass land. In this particular case the land was ploughed immediately before seeding, rolled, drilled, and harrowed. Seed was sown at the rate of 90lbs. per acre with 75lbs. of superphosphate.

In all cases on new land, unless otherwise stated, 60lbs. of seed and 75lbs. of superphosphate were used per acre. On fallow land all seeding, except Smutproof (which was sown at the rate of 90lbs. of seed per acre), was at the rate of 60lbs. of seed and 112lbs. of superphosphate per acre.

Fields Nos. 16, 17, and 18 were ploughed during February and March, harrowed, then rolled, and seeded during the last week in April and first week in May with 90lbs. of seed per acre. Fields Nos. 8 and 9 were ploughed during April and May, harrowed, drilled, and harrowed again after the drill. Field No. 15 was cultivated during early part of May, drilled, and then harrowed.

Wheat Yields on Fallow, Minnipa, 1922.

Variety.	Field.	Area.	Total Yield. Bus. lbs.	Yield per acre. Bus. lbs.
Red Russian	No. 1	14.01	255 0	18 12
Walker's Wonder . . .	No. 1	9.67	151 20	15 39
Smutproof	No. 1	6.95	97 9	13 59
Late Gluyas	No. 1	17.45	235 12	13 29
Barоota Wonder	No. 1	6.07	81 12	13 23
Silver Baart	No. 1	11.84	151 25	12 47
Federation	No. 1	8.97	92 6	10 16
Queen Fan	No. 1	16.04	164 22	10 15
Mixed wheats	No. 1	4.0	54 0	13 30
Yandilla King and Marshall's No. 3 sown over with Currawa . .	No. 1	19.38	161 24	8 20
Average for fallow		114.38	1,443 10	12 37

Red Russian, being a very hardy wheat, was able to compete better with the wild mustard present, and to this I attribute its success as the highest yielding variety on the fallow land.

Federation, which did remarkably well on new land this year, has made a poor showing on fallow. The reason for this, I consider, is that whereas there was not any wild mustard present on new land, there was on the fallow, and Federation, being a short-strawed, mid-season wheat, was outgrown by the wild mustard.

A portion of Silver Baart area had to be re-harrowed after it was up, to break a crust which had formed on it, and this portion did not yield anything like the remainder of the area of this same variety.

Wheat Varieties on New Land, Minnipa, 1922.

Variety.	Field.	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
Federation	No. 9	6.64	135 54	20 28
President	No. 9 (tests)	18.68	361 39	19 22
Gluyas	Nos. 16, 17, & 18	64.22	1,204 5	18 45
Queen Fan	No. 15	16.98	301 48	17 46
Sultan	No. 15	9.29	163 53	17 38
Canaan	No. 15	17.70	296 28	16 45
King's Red	No. 15	14.34	236 24	16 29
Felix	No. 15	11.12	181 52	16 21
Emperor	No. 15	12.15	189 1	15 33
Rajah	No. 9 (tests)	23.24	357 57	15 24
Currawa	No. 9	46.64	702 39	15 4
King's White	No. 15	22.19	329 42	14 51
Caliph	No. 9	29.21	421 45	14 26
Fortune	No. 8	30.04	412 0	13 43
Smutproof	No. 15	2.26	30 41	13 35
Maharajah	No. 9	10.56	143 0	13 33
Canaan	No. 8 (E. of pines)	6.81	63 28	9 19
Canaan	No. 9	2.90	23 34	8 8
Marshall's No. 3	No. 9	1.65	8 13	4 59
Farm average (new land)		346.62	5,564 3	16 3

Wheat on Grass Land, Minnipa, 1922.

Variety.	Field.	Area.	Total Yield. Bush. lbs.	Per Acre. Bush. lbs.
Emperor	13C	11.04	227 23	20 36
Average		11.04	227 23	20 36

Farm Wheat Average, Minnipa, 1922.

Where Grown.	Area.	Total Yield Bush. lbs.	Yield per Acre. Bush. lbs.
Grass land	11.04	227 23	20 36
New land	346.62	5,564 3	16 3
Fallow	114.38	1,443 10	12 37
Total wheat farm average	472.04	7,234 36	15 20

Although Federation has been only a moderate yielder here in the past, it has shown up well on new land this year. However, wheats cannot be judged by their performance during one year, and this being the case, Federation has to give way to Emperor, President, Gluyas, and other such "early" wheats.

President is a variety which has behaved well this year, showing a good yield and quite a good length of straw had it been needed for hay.

I am still of the opinion that farmers are not sowing enough Gluyas in these districts, and feel positive that they would benefit by giving this variety more consideration. This variety, over a term of years, is holding its place, and yielding heavier returns than most varieties.

Wheat Yields, Minnipa, 1916-1922.

Year.	Total Rainfall. In.	Useful Rainfall. In.	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
1916. . . .	18.02	16.62	171.73	4,908 6	28 35
1917. . . .	21.69	18.00	76.65	1,999 34	26 5
1918. . . .	10.02	8.47	141.37	3,022 55	21 23
1919. . . .	10.07	5.57	112.52	980 40	8 43
1920. . . .	18.08	16.28	196.51	5,040 8	25 39
1921. . . .	20.88	8.81	219.96	2,058 24	9 21
1922. . . .	10.07	7.36	472.04	7,234 36	15 20
Means .	15.55	11.59	—	—	19 18

The previous table shows an average of 19bush. 18lbs. for wheat, all varieties and soil conditions included—a fair average over a period of seven years. This should be sufficient to recommend this district as a wheatgrowing area.

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CURRIE STREET.

Wheat Yields from Various Soil Treatments, Minnipa, 1918-1922.

Year.	Total Rain.	Useful Rain.	Fallow. Bush. lbs.	New Land. Bush. lbs.	Stubble Land. Bush. lbs.	Grass Land. Bush. lbs.	Farm Average. Bush. lbs.
1918 . .	10.02	8.47	23 44	14 12	18 14	—	21 23
1919 . .	10.07	5.55	9 36	9 21	3 11	—	8 43
1920 . .	18.08	16.28	30 8	22 38	13 5	—	25 39
1921 . .	20.88	8.81	10 4	8 2	9 0	—	9 21
1922 . .	10.07	7.36	12 37	16 3	—	20 36	15 20
Means	13.82	9.29	17 14	14 3	*10 52	—	16 5

* Four years only.

The table above shows the average yields of wheat grown on soils which received different methods of treatment for each individual year since 1918. In 1922 no stubble land was reaped for grain, but for the first year an area of grass land was reaped.

In previous years it has been the custom to show a table of wheats grown on fallow over a period of years, with the object of comparing varieties. Now that a larger area is being cropped, and the call for seed wheat is greater, larger areas of different varieties have to be cropped, so, with a limited area of fallow, few varieties only can be sown on fallow. The remainder of the varieties have to be sown on clean, new ground. To compare one variety sown on fallow with one sown on new land is not very satisfactory. This table has therefore been omitted this year.

EXPERIMENTAL PLOTS.

A number of experiments have been conducted on new land, and these are as follows:—

(1) *Testing the Effect of Different Quantities of Seed per Acre.*—In this test all plots received a dressing of super at the rate of 112lbs. per acre. The results are tabulated below:—

Rates of Seeding Tests with Wheat on New Land, Minnipa, 1922.

Variety: President.

Seed per Acre.	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
30lbs. President	1.86	34 31	18 33
40lbs. President	2.04	39 4	19 9
50lbs. President	1.67	32 59	19 45
60lbs. President	1.79	35 34	19 52
75lbs. President	1.91	37 19	19 32
90lbs. President	1.77	34 46	19 39

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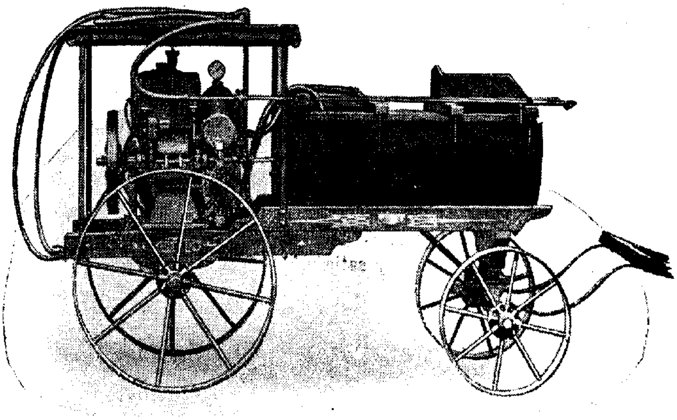

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SPECIAL NOZZLES FOR BLOW-FLY PEST.

Rates of Seeding Tests with Wheat on New Land, Minnipa, 1918-1922.

			Yield per Acre.						
Year.	Rain-fall.	Useful Rain.	30lbs. Seed.	40lbs. Seed.	50lbs. Seed.	60lbs. Seed.	75lbs. Seed.	90lbs. Seed.	Farm Average (New land).
			B. L.	B. L.	B. L.	B. L.	B. L.	B. L.	B. L.
1918 . .	10.02	8.47	16 26	17 34	15 52	17 12	14 17	17 43	14 12
1919 . .	10.07	5.55	10 10	9 41	10 26	11 53	13 31	12 9	9 21
1920 . .	18.08	16.28	6 44	7 51	10 41	8 55	11 35	10 31	22 38
1921 . .	20.88	8.81	6 30	6 47	6 4	6 6	6 2	5 30	8 2
1922 . .	10.07	7.36	18 33	19 9	19 45	19 52	19 32	19 39	16 3
Means	13.82	9.29	11 41	12 12	12 34	12 48	12 59	13 6	14 3

From this table it will be seen that for this year's test 50lbs. of seed per acre is the most profitable rate to sow. The means over a period of five years reveal that there is a gradual increase in yields for additional seed sown, but although the yield is increased, the increase is not in proportion to the seed sown.

(2) *Quantitative Manure Tests.*—These tests have now been conducted for a period of seven years on "new land."

Manurial Tests with Wheat on New Land, Minnipa, 1922.

Variety: Rajah.

Manure per Acre.	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
No manure	1.55	16 30	10 39
½cwt. (36 per cent. superphosphate) . . .	1.57	23 29	14 57
1cwt. do. do. . .	1.58	25 14	15 58
2cwts. do. do. . .	1.60	24 44	15 28
3cwts. do. do. . .	1.63	25 41	15 45

Manurial Tests with Wheat on New Land, Minnipa, 1916-1922.

Year.	No Manure.	½cwt. Super.	1cwt. Super.	2cwts. Super.	3cwts. Super.	Farm Average. (New land.)	Rain fall.
	B. L.	B. L.	B. L.	B. L.	B. L.	B. L.	In.
1916 . .	19 56	22 55	24 11	28 38	—	24 41	18.02
1917 . .	15 35	26 48	29 39	31 17	31 9	26 18	21.69
1918 . .	8 6	10 47	9 53	10 38	13 46	14 12	10.02
1919 . .	2 44	6 12	7 47	10 7	9 57	9 21	10.07
1920 . .	19 36	21 54	20 54	21 16	24 9	22 38	18.08
1921 . .	3 13	6 58	8 35	8 53	8 24	8 2	20.88
1922 . .	10 39	14 57	15 58	15 28	15 45	16 3	10.07
Means	11 24	15 47	16 42	18 2	*18 52	17 19	15 55

* Six years only.

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Cyclone Spring Coil Fence is made of galvanised metal throughout, and is supplied in 5-chain rolls. It is easily erected, and never slacks out, having great elasticity due to the crimp in the horizontal lines. The kink in the line wires also prevents the ties from side slipping, and adds greatly to the efficiency of the fence.

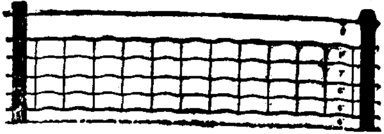

Fig. 7 - Cyclone Special Spring Coil Sheep Fence.

The fence illustrated is the famous Cyclone Spring Coil Special Sheep Fence, 5 lines, 26 inches high, with barb wire 9 inches above top line wire, making complete fence 42 inches high, and serviceable for all stock.

Cyclone Spring Coil Fence.

This is made for Sheep, Cattle, and all Stock, in various heights from 5 line (26 inches) to 12 line (58 inches).

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This year an increase of well over 4bush. has been secured from wheat which received a dressing of ½cwt. superphosphate, as compared with the "no manure" plot. Heavier dressings give gradually increasing yields, but not in proportion to the manure applied.

(3) *High-grade and Low-grade Super.*—This year, for the first time on this farm, a test was made of 179lbs. of 45 per cent. superphosphate against 224lbs. of 36 per cent. superphosphate per acre. Two plots were seeded at the rate of 60lbs. of President seed per acre. Results were as follows:—

Manurial Test, Minnipa, 1922—45 *per cent.* v. 36 *per cent. Superphosphate.*

Manure used.	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
179lbs. 45 per cent. superphosphate per acre	1.72	33 35	19 32
224lbs. 36 per cent. superphosphate per acre	4.27	82 54	19 25

A strict watch was kept on this test from the time of seeding, to ascertain whether there was any noticeable difference in the germination, &c. No variation was detected during the growing period, and, as will be seen by the above table, the yields were practically the same.

In districts such as this, where freights are a big factor, a considerable saving is effected in this when 45 per cent. super is used in lieu of 36 per cent., in the proportions indicated in this test.

Cultivation Tests on New Land, Minnipa, 1922.

Variety: **Rajah.**

	Area. Acres.	Total Yield. Bush. lbs.	Yield per Acre. Bush. lbs.
Harrowed	0.73	10 56	14 59
Once rolled	1.15	18 30	16 5
Thrice rolled and twice cultivated	1.51	23 57	15 52
Twice rolled and cultivated once..	1.53	24 33	16 3

This land was ploughed during May, and harrowed before any cultivations during seeding commenced. The plots were seeded on May 17th with Rajah wheat at the rate of 60lbs. seed and 112lbs. superphosphate per acre.

THE AGRICULTURAL BUREAU OF SOUTH AUSTRALIA.

CONFERENCE OF YORKE PENINSULA BRANCHES.

The Annual Conference of the Yorke Peninsula Branches of the Agricultural Bureau was held at Minlaton on Wednesday, April 11th. The Department of Agriculture was represented by the Minister of Agriculture (Hon. G. F. Jenkins, M.P.), the Superintendent of Experimental Work (Mr. W. J. Spafford), the Government Dairy Expert (Mr. P. H. Suter), and the Secretary of the Advisory Board (Mr. H. J. Finnis). The Parliamentary representatives for the district (Messrs. P. Allen, M.P., and H. G. Tossell, M.P.) were also present. There was an excellent attendance of delegates and visitors.

Mr. F. L. Carmichael (Chairman of the Brentwood Branch) presided, and in the course of a short address extended a welcome to the visiting officers and delegates.

The Minister of Agriculture (Hon. G. F. Jenkins, M.P.), who was called upon to open the Conference, thanked the members of the Weavers and Brentwood Branches for having agreed that the 1923 gathering should be held at Minlaton. There could be no question that the practice of holding the Conference in different centres was infinitely better than holding it in the same town every year. This was the first Conference that had been held in Minlaton for 30 years, but he hoped it would not be 30 years before another similar gathering would be held there. He was particularly pleased to see so many present who, like himself, had been engaged for the whole of their lives in primary production, and had also taken a considerable interest in the Agricultural Bureau. He had been a member of the Agricultural Bureau for 25 years.

ADVANCE AGRICULTURE.

The Minister said he felt quite at home in meeting the producers on common ground. If there was one district in South Australia that had made more advance than another it was Yorke Peninsula. Many years ago he remembered reading the crop forecasts in the press, and invariably they showed the Peninsula lowest on the list. That had been entirely altered, chiefly by the introduction of superphosphates and improved methods of cultivation. To-day the Peninsula was recognised as one of the most advanced places in regard to wheatgrowing that they had in South Australia. The farmers on Yorke Peninsula set an example that had been followed throughout the Commonwealth. It was at Minlaton that super was first taken up with enthusiasm by some of the pioneers of the district. Although praise was due for the work done by the pioneer farmers, they as producers were too prone to forget that it was the agricultural chemist who had given them super, and if it had not been for the chemist the wheatgrowers would be at a very low ebb in South Australia. He also wished to remind the producers of the debt they owed to Professor Lowrie, for his persistent advocacy of the use of super, for it had borne wonderful fruit, and they could never forget the work he had accomplished in different parts of the State.

CROP COMPETITIONS.

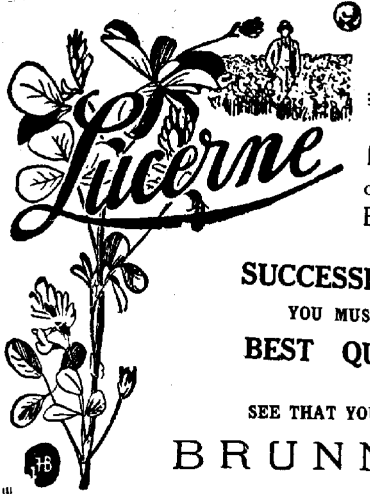
At Lameroo, Naracoorte, Kybybolite, and Maitland crop competitions had been established, and as a department they hoped that such competitions would be considerably extended in the near future. The department felt that nothing but good could come of the rivalry that would be stimulated, which must result in better methods of agriculture. Other Branches had taken up the work, and the department wished it to be widely spread throughout South Australia. The department wished the Branches of the Agricultural Bureau to work in conjunction with the agricultural societies. If they worked smoothly, hand in hand, there could be no doubt that the result would be a continued improvement in the agricultural activities of the State. Among those who took part in the district competition rivalry would be fostered. He did not think it would be a difficult matter to induce the Royal Agricultural Society to offer substantial prizes for the best crop of wheat grown in South Australia, and the winner would be able to say with no small degree of pride that he had grown the best crop in the State.

DAIRY ADVISORY BOARD.

Recently a Dairy Advisory Board had been appointed, but he felt that more direct representation of the primary producers on that board than was admitted by the Federal Constitution was necessary. He had gone beyond the limits of his powers, and decided to appoint one representative from the Northern districts and one from the South-East. At the last meeting, held in Sydney, this action was criticised, but he did not mind that. He felt it was only just that the men who produced the primary products should be adequately represented on such boards, and as long as he was able he intended to pursue that policy. (Applause.) Considerable improvement had been made in the dairy industry during the last few years. The exports constituted a record for South Australia. As producers they ought to go in for records, for that would be the truest test of progress of the industry. Not only was a record in quantity created, but the quality of the produce last year had shown a marked improvement. The Agricultural Department could justly claim a very large share of praise for those records. Two years ago the Government appointed an instructor for mallee lands (Mr. C. P. Hodge), and from reports received he had every reason to believe that the action of the Government had been appreciated. Mr. Hodge had since left the department, and it had been decided to call for applications for the position from men with practical mallee farming experience, able to impart their knowledge to others.

SOLDIER SETTLEMENT.

The State had embarked upon a scheme for the settlement of thousands of returned soldiers on the land. Many had not had previous experience. In the case of those men, the Government were anxious that the Bureau should lend a helping hand in order that they might make good agriculturists for the State. The Agricultural Bureau was an excellent medium of imparting knowledge to men who had taken up a new sphere in life. As Minister of Agriculture, he looked to the Branches of the Bureau to help the soldier settlers, and



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so add materially to the wealth of the State. As far as the agricultural experts were concerned, the Government wanted them to be of the utmost assistance to the agriculturists. They did not want to keep a staff of experts housed in offices in the city. The Government wanted the farmers to ask the experts to visit the rural districts. When they had difficulties they could not solve, the Government wanted the producers to ask help from them. The Government felt that a combination of science and agricultural practice was the only way in which difficulties could be solved. They must not stop still. Only a few years ago land was worth from £2 to £3 an acre. To-day in good districts £15 an acre was not a big figure. Men taking up such land would have a big interest bill to meet, and would be compelled to produce every possible grain of wheat. Speaking as he had of the Agricultural Department, he wanted sincerely to acknowledge the splendid help that, as a department, they had received from the press in the dissemination of agricultural knowledge among the producers. He had much pleasure in declaring the Conference open, and trusted that nothing but the very best would result from the gathering. (Applause.)

Papers and Resolutions.

Mr. A. E. Anderson (Weavers) then read a paper, "How to Make Money." This was followed by another paper, from Mr. F. J. Vanstone, who dealt with the subject, "Destruction of Vermin." After the luncheon adjournment, Mr. E. Correll, of the Minlaton Branch, contributed a paper, "Co-operative Shearing Sheds." Mr. F. H. Francis (Maitland) also read a paper, "Improving Livestock." The remaining portion of the afternoon session was devoted to "Free Parliament," when the Superintendent of Experimental Work (Mr. W. J. Spafford) dealt with the subject, "Electrification of Seed Wheat." It was resolved, "That this Conference urges the Government to introduce legislation to provide for the compulsory registration of stallions." Conference accepted the invitation of the Maitland delegates to hold the 1924 gathering in that town. The Conference was concluded with the evening session, when the following papers were read:—Mr. A. L. Vanstone (Brentwood), "Economy on the Farm"; Mr. H. F. Heinrichs (Kilkerran), "Tractor *v.* Horses"; Mr. F. J. Nation (Brentwood), "Side Lines on the Farm."

CONFERENCE OF LOWER NORTH BRANCHES.

The 1923 Conference of Lower Northern Branches was held at Williamstown on Thursday, April 19th. The Minister of Agriculture (Hon. G. F. Jenkins), the Director of Agriculture (Professor Perkins), Messrs. G. Quinn (Horticultural Expert), P. H. Suter (Dairy Expert), J. B. Harris (Orchard Instructor and Inspector), C. J. Tuckwell, A. M. Dawkins, F. Coleman, Captain S. A. White (members of the Advisory Board of Agriculture), and Mr. H. J. Finnis (Secretary of the Advisory Board of Agriculture) represented the Department of Agriculture. The members for the district (Sir R. Butler, M.P., and T. Crosby, M.P.) were also present.

The Minister of Agriculture (Hon. G. F. Jenkins, M.P.), who was called upon to deliver the opening address by the Chairman of the local Branch (Mr. A. Norseworthy), said it gave him great pleasure to be present and to have the opportunity of opening yet another Conference of Branches of the Agricultural Bureau. His first experience of the kind was at Laura, and later he performed a similar duty at Minlaton. "Here I meet," said the Minister, "an assemblage of ladies and gentlemen—and may I emphasize the ladies—who constitute as large a district of the Agricultural Bureau as we have in South Australia. You are entitled to some special mention of the ladies' Branches in the Lower Northern district, for there are only three women's Branches in South Australia, and those three are in the district which meets at Williamstown. The splendid exhibitions of district products here to-day are, I have no doubt, due to the energy and activities of the women's Branches. I wish to congratulate the women who have been instrumental in forming their Branches of the Agricultural Bureau in this district."

He expressed pleasure at the announcement that the wheatgrowers had received a further advance of 1s. per bushel on wheat delivered into the voluntary pool.

Crop Competitions.

He wished to refer to another matter of particular interest to the agriculturists of the State—the crop competitions. This innovation was due to Mr. W. S. Kelly's energy. He brought it before the Advisory Board and the Government, and through him the proposal had advanced to the stage it has now reached. The response of the Agricultural Bureaux had been excellent. The proposal might have been somewhat misunderstood by some of the Branches, who thought the desire of the department was to have the Branches conduct the competitions unaided. That was not the case at all, although nothing would be done to discourage such enterprise. The idea was to encourage agriculturists and Branches in districts where the climatic and soil conditions were identical to band together, and run competitions and encourage the growing of good, clean crops of wheat in districts, and they might also give prizes for the best paddocks of fallow. In Victoria the agricultural societies had gone a step further, and had given prizes for the best kept or laid out farm. From such competitions nothing but good could come, for they would build up a spirit of healthy rivalry. The Agricultural Department would assist by providing from the expert staff the judges of the crops. "We want the Branches of the Agricultural Bureau to seek the co-operation of the agricultural societies in their districts," he said, "and with that and the Branches' assistance, we should be able to build up a system of competitions which will have a beneficial effect on agriculture." He had reason to believe that the Royal Agricultural Society would also give substantial assistance, and he could imagine no greater rivalry than that which would be created between districts for the honor of growing the best crop in the State. He hoped the competition would be in every way successful. The results at Lameroo had been most favorable.

FRUIT INDUSTRY.

He also drew the attention of local horticulturists to the work that was being done by the Fruit Advisory Board, which had been recently appointed in order that the Minister and the Government could be fully informed of the requirements of the industry, and where assistance was found necessary the Government would be in a position to act with full information before them. He had recently received a request from the Murray Citrus Growers' Association for assistance in erecting a small plant for the extraction of essential oils and essences from citrus fruit. Realising the benefit it would be to the industry if the extracting process could be profitably established, Cabinet had agreed to advance half the necessary capital to erect a small plant at Port Adelaide. An expert from Italy had undertaken the work. The Government's share would be about £300, and if the experiment was only half the success the expert who was acting in an advisory capacity expected, the citrus growers could look with a great deal more confidence to the future, for they would have a market for oversized fruit and that not suitable for marketing, and that would mean the stabilising of the industry.

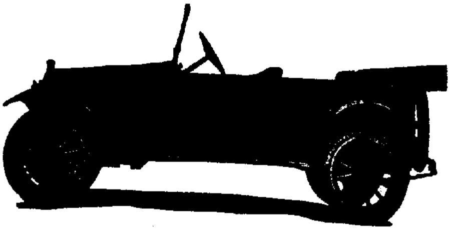
STOCK IMPORTATIONS.

Dealing with the question of stud stock importation, the Minister said the State Government would make all representation possible to the Federal Government to have the promises made by Mr. Hughes honored. In the past two years South Australia had suffered to some extent by the importation from Queensland of animals affected with pleuro-pneumonia. He hoped in the near future effect would be given to fresh regulations and further restrictions of such cattle. The Government had a scheme in hand to deal with the matter, and the details would shortly be published. He wished the Conference every success, and hoped the deliberations would have a beneficial effect on the agricultural industry in the district, and ultimately that the effects would spread far beyond the boundaries of the immediate locality. (Applause.)

GENERAL BUSINESS OF THE CONFERENCE.

Mr. A. M. Fuller, of the Tarlee Branch, then read a paper, and during the keen discussion which followed it was decided, on the motion of Mr. J. S. Hammatt (Lyndoch), seconded by Mr. A. Fuller (Tarlee), "That the Advisory Board be asked to recommend to the Ministry the introduction of legislation to protect the horsebreeding industry of the State." It was decided to hold the next Conference at Riverton.

Conference was resumed after lunch with "Free Parliament," when the following resolutions were carried:—(*a*) "That the Turretfield Farm be reopened as a pure seed wheat farm." (*b*) "That more stringent measures be taken to deal with neglected orchards and vineyards." (*c*) "That the Advisory Board be asked to ascertain the reason for the difference in the price of wheat in South Australia and New South Wales." (*d*) "That the Advisory Board be asked to take steps to impress on the Government the need for enforcing the Noxious Weeds Act." (*e*) "That this Conference strongly recommends the



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Department of Agriculture, in conjunction with the Adelaide University, to arrange for a rural household science course for women, on the lines of such courses at the Perth University." During the afternoon session delegates also discussed several questions, including "The Fox Pest," "Destruction of Starlings and Sparrows," and the cause of the premature falling of vine leaves.

The evening session was opened by Mr. W. G. Grigg, who read a paper, "The Queen Bee." Mr. Geo. Quinn (Horticultural Instructor) then delivered an address, "Fruit Drying." The session concluded with a paper by Mr. Powell, "Potato Culture."

On Friday morning the visitors made a tour of inspection of the Williamstown district.

ORCHARD NOTES FOR SOUTHERN DISTRICTS, MAY, 1923.

[By C. H. Beaumont, Inspector and Instructor.]

Fruit picking will have been completed, and very little will remain to be done for the fruit except to watch that which is in the cold store. Last year there were many complaints about the bad keeping of apples and pears. On inquiring into the reason for this, I found that in nearly every instance it was due to want of care in packing. The fruit was brought in in a damaged condition, and it was impossible for it to turn out well. To give the cold store a fair chance, the fruit should be fresh picked, but not put in hot from the tree; it should be mature, but not over-ripe; fruit from young trees is not suitable for storing, nor are very large fruits. Go through the fruit in the store and remove anything showing signs of deteriorating. We are again importing thousands of bushels of fruit.

Pruning will commence as soon as possible. Do the stone fruits and vines first, and then apples and pears. If you have any doubt about what to do, go to the Instructor for the district; he will be pleased to help you.

Plough as early as you can; turn the soil to the trees for the first ploughing; this will leave an open furrow between each row to get rid of surplus water. Leave the soil in the clod. It is very necessary to get rid of surface waters, which do great damage in the orchard by washing away the soil; each property will need a plan of its own, according to position; but in every case it should be a simple matter. If you have land which becomes wet and boggy it means underdrainage; an application to the Department will bring you instructions how to proceed.

Planting of new trees should be proceeded with as soon as possible after the first rains. Be sure that you get good strong trees from the nursery, free from disease and weeds. Then if your land has been properly prepared, you need not fear for good results. Young citrus trees will need watering unless rain falls.

ADVISORY BOARD OF AGRICULTURE.

The monthly meeting of the Advisory Board of Agriculture was held on Wednesday, April 18th, there being present Capt. S. A. White (Vice-Chairman), the Director of Agriculture (Professor A. J. Perkins), the Principal, Roseworthy Agricultural College (Mr. W. J. Colebatch), Messrs. C. J. Tuckwell, A. M. Dawkins, L. Cowan, B.Sc., H. Wicks, Col. Rowell, T. H. Williams (Chief Inspector of Stock).

Apologies were received from the Minister of Agriculture (Hon. G. F. Jenkins, M.P.) and Messrs. W. S. Kelly, G. Jeffrey, and W. G. Auld.

Leave of Absence.—Leave of absence was granted to Messrs. G. Jeffrey and L. Cowan, B.Sc., who are about to leave on a visit to England.

Take-all Investigation.—A request was received from the Koppio Branch asking that the latest investigations referring to take-all might be published in bulletin form. The matter was referred to the Professor of Botany (Professor T. G. Osborne), who stated that it was proposed to prepare at once a pamphlet covering the investigations that had been carried out.

Manager of Minnipa Experimental Farm to Visit District Branches.—A report on this matter was received from the Director of Agriculture (Professor A. J. Perkins), and on the motion of Mr. A. M. Dawkins, seconded by Mr. L. Cowan, it was decided to transmit the request of the Branch to the Minister, accompanied by the Director's report.

Eradication of Woolly Aphis.—A resolution was received from the Blackwood Branch, suggesting certain tests designed to bring about the eradication of woolly aphis on apple trees. It was decided to ask the Horticultural Instructor (Mr. Geo. Quinn) to report on the question.

Water Shortage.—Correspondence was received from the Maltee Branch, asking the Advisory Board to urge the Government to push on with the Tod River Scheme, and endeavor to have the main pipe line ready to carry the water before next summer. On the motion of Mr. A. M. Dawkins, seconded by Mr. H. Wicks, it was decided to transmit the request to the Minister.

Conference Resolutions—Mid-Northern.—The following resolutions were carried at the recent Conference of Mid-Northern Branches:—(*a*) "That bulls be inspected before registration." The Board decided that, under existing regulations, the suggestion was impracticable. (*b*) "That the State be divided into two areas, viz., all that part of the State north of a line from Renmark to Wallaroo and the portion of the State south of that division, and that in the northern portion the simultaneous destruction of rabbits take place during the last 14 days of January and the first 14 days of February; and in the southern part during the last 14 days of February and the first 14 days of March.'' It was decided to forward the resolution to the Minister, with the strong support of the Board. (c) The following resolution was received:—''That, in the opinion of this Conference, manufacturers should supply superphosphate direct to the farmers, thus saving the farmer the 8s. per ton now paid to distributors and agents.'' *Yorke Peninsula Conference.*—''That this Conference urge the Government to introduce legislation to provide for the compulsory registration of stallions.'' Mr. W. J. Colebatch moved and Mr. T. H. Williams seconded that the resolution be forwarded to the Minister of Agriculture, with the strong recommendation of the Board.

Crop Growing Competitions.—The Secretary intimated that a very satisfactory response had been received from Branches in respect to the suggestion that crop growing competitions should be arranged.

Importation of Stud Stock.—The Advisory Board of Agriculture resolved—''That the Federal Government should be asked to encourage the importation of stud stock by refunding the freight and quarantine charges of animals purchased in Great Britain.'' It was pointed out that whilst some of the breeds of cattle in Australia were now independent of importation from Great Britain, others could be raised to a satisfactory standard only by free importation of high-class sires. At the present time the charges for transport were so heavy that only wealthy breeders could afford to make importation. If breeders were granted the assistance asked, a large number of high-class stock would be introduced, with highly beneficial results. An illustration of the satisfactory results following Government assistance of that nature was afforded in the remarkable improvement in the Merino studs of South Africa as the result of importations of sires from Australian Merino studs. Emphasis was continually being placed upon the necessity for improving the quality of meat-producing animals. High quality of flesh and early maturity were essential if Australia was to catch and hold the English market in beef or lambs. Those qualities could only be obtained in many of the breeds by free importations of sires from studs noted the world over for their standard and quality.

New Members.—The following names were added to the rolls of existing Branches:—Nelshaby—P. Gent; Redhill—G. C. Horne; Wilkawatt—A. G. Ellis; Salisbury—A. Quick; Allandale—W. Laslett, A. Yateman, Wm. Lock; Meadows—A. E. Wray; Lyndoch—H. S. C. Fuss, A. V. Adams; Tarlee—T. H. Middleton; Rockwood—Thos. Langley; Netherton—A. R. Sundgoist; Butler—V. J. Pfitzner, W. R. Pfitzner; Wirrilla—W. Mitchell, G. Woods; New Residence—W. Fritsch, O. Voigt, J. Voigt; Talia—W. D. McBeath; Mount Barker—W. F. Pickering; Wynarka—F. A. Mewett, A. L. Manley, G. Campbell, C. Campbell; Tatiara—A. H. C. Guy; Blackwood—A. Sullivan; North Booborowie—B. Manion, jun., P. Manion, A. MacInery; Glossop—J. Foster, E. H. Easter, A. Smith, A. Haines, N. G. Shearer, C. P. McDonald; Crystal Brook—A. R. Lock, E. R. Bryden, G. E. Gum, W. W. Nicholls; Glencoe—J. Campbell, A. E.

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Charlock; Lone Pine—F. Homburg; Kybybolite—E. Moore, V. Billing; Belalie North—W. E. Fuller, A. Bray; Kilkerran—J. H. Williams, J. R. McPherson; Taplan—C. G. Zimmermann; Booleroo Centre—L. Paterson, J. Raftery; Morphett Vale, J. Wilson; Tarcowie—G. W. Jeffs; Cygnet River—E. Burgess; Cherry Gardens—W. G. D. Basey; Bundaleer Springs—W. D. Cooper; Redhill— — Hancox; Winkie—J. Gardner, B. Setterberg; Wudinna—V. Boylan, B. McKnapp; Taplan—E. Heinze, B. Tuesner; Wirrulla—F. J. Dunn, F. A. Doley, Leo. Schar; Murray Bridge—S. S. Jones; Windsor—C. Ervine; Coomandook—A. Hese, W. Hese, R. Lyon, V. Guy; Parilla Well—F. M. Davis; Allandale East—S. H. Butler, G. R. Kemp; Blyth—A. A. Meschke, H. E. Zweck. C. Schumaker.

RIVER MURRAY HERD TESTING ASSOCIATION.

RESULTS OF BUTTERFAT TESTS FOR MARCH 1923.

Herd No.	Average No. of Cows in Herd.	Average No. of Cows in Milk.	Milk.			Butterfat.		
			Per Herd during March.	Per Cow during March.	Per Cow October to March.	Per Herd during March.	Per Cow during March.	Per Cow October to March.
			Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
1/C	31	24·74	19397·5	625·73	4698·79	847·42	27·34	190·14
1/E	22·58	19·58	12561·5	556·31	3559·72	612·97	27·15	153·40
1/J	22·06	19·84	12196·5	552·87	3263·16	561·94	25·47	243·66
1/L	16·13	13·03	8049	499·01	3523·42	403·05	24·99	159·97
1/M	22·29	18·94	11925·5	535·02	3185·41	627·93	28·17	154·51
1/R	12·94	9·84	6058	468·16	3114·81	346·36	26·77	151·97
1/T	12	9·32	7296·5	608·04	3310·50	379·87	31·66	161·64
1/U	14	14	12772	912·29	3722·56	558·32	39·88	157·47
1/W	12·26	11·61	7895	643·95	3878·82	301·91	24·63	144·60
1/X	19	18	10075	530·26	3661·44	515·51	27·13	165·34
1/Y	23·06	20·06	13638	591·41	3874·63	623·81	27·05	168·23
1/Z	20	15·68	10724	536·20	3126·84	483·59	24·18	141·68
*1/AA	6	6	4541·5	756·92	3779·58	199·86	33·32	165·94
*1/BB	10	8·84	5972	597·20	2667·80	249·72	24·97	117·15
†1/CC	11	6·68	3783·5	343·95	1749·70	154·80	14·08	74·39
‡1/V	16	16	10989·5	686·84	1361·45	472·65	29·54	57·09
Means	16·90	14·51	9867·19	584·03	3682·86	458·73	27·15	160·50

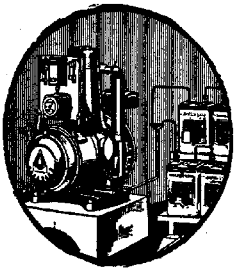
* Entered November 1st, 1922. † Entered December 1st, 1922 ‡ Entered February 1st, 1923.

MT. GAMBIER AND DISTRICT HERD TESTING ASSOCIATION.

RESULTS OF BUTTER FAT TESTS FOR MARCH, 1923

Herd No.	Average No. of Cows in Herd.	Average No. of Cows in Milk.	Milk.			Butterfat.		
			Per Herd during March.	Per Cow during March.	Per Cow August to March.	Per Herd during March.	Per Cow during March.	Per Cow August to March.
			Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs
2/A	21	17·94	4413·5	210·17	4409·19	223·03	10·62	189·05
2/B	7	5·10	2848	406·86	7129·29	125·22	17·89	298·11
2/C	21	13·06	4825	229·76	5080·04	202·45	9·64	205·88
2/D	14	7·10	3285·5	234·68	3829·19	134·38	9·60	153·11
2/E	11	11	4572·5	415·68	5489·72	216·29	19·66	242·04
2/F	20	10·03	3548	177·40	4491·21	161·79	8·09	182·36
2/G	3	3	1782·5	594·17	6834·50	89·32	29·77	308·99
2/H	27·42	24·90	6965·5	254·03	4549·21	323·37	11·79	188·51
2/I	15	13·71	5599·5	373·30	4942·39	249·88	16·66	202·83
2/J	12	12	7083·5	590·29	6502·95	305·84	25·49	273·91
2/K	19·35	18·97	11036	570·34	5061·78	458·92	23·72	211·49
2/L	33	23·97	11235	340·45	3903·68	535·82	16·24	176·42
2/M	—	—	—	—	—	—	—	—
2/N	14·81	14·29	3504·5	236·63	3551·52	151·64	10.24	143·12
2/O	42	28·06	9974·5	237·49	3270·46	424·67	10·11	134·17
2/Q	33	17·81	5220	158·18	4009·73	227·99	6·91	165·23
2/R	15	13·77	11059·5	737·30	6929·66	508·62	33·91	298·88
Means	19·29	14·67	6059·56	314·19	4457·54	271·20	14·06	186·56

* Withdrawn end of February.



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THE AGRICULTURAL OUTLOOK.

REPORTS FOR THE MONTH OF APRIL.

The following reports on the general agricultural condition and outlook of the areas represented by the Government Experimental Farms mentioned below have been prepared by the respective Managers:—

Booborowie.—Weather—The weather for April has been extremely dry and calm, 16 points of rain having been registered up to the 27th. At times cold east winds have prevailed. Crops—The lucerne fields are now making very little growth owing to the dryness of the season and the cold weather setting in. Natural feed is becoming very scarce and a serious problem. Stock—Livestock are all in good condition where handfed, otherwise poor. Pests—Nothing in particular. Miscellaneous—Farmers will very soon commence seeding operations.

Eyre Peninsula.—Weather—Generally dry. Have had thunder and one thunderstorm, which was very patchy and practically missed us; 31 points for the month. Crops—Seeding in full swing everywhere. Have approximately 250 acres seeded here up to date. About 12 acres of oats germinated with recent rain, and it looks very sickly. Natural Feed—None about, and it can hardly be expected, seeing we have had 38 points of rain during the year. Stock all in fair order, but have to be handfed. Pests—Very few rabbits about, but plenty of foxes, which accounts for the scarcity of the former. Miscellaneous—Water carting is general, and Government tank at Tcharkulda is holding out remarkably well.

Kybybolite.—Weather has been very fine, calm, and dry. Not one point of rain has been registered for the month, and the total for the four months is only 71 points. This is by far the driest period ever recorded since the farm has been in existence (1906). No rain has fallen for the last eight weeks. Winds have also been scarce and light, consequently much difficulty has been experienced in securing sufficient water for stock. Crops—A few crops have been sown dry, mainly oats, but very little preparation for seeding has been possible. Maize under irrigation is ripening well. Berseem under irrigation has germinated well. Quite a fair amount of topdressing of pastures has been done, and some liming of soils. Natural feed is scarce, and handfeeding of ewes has commenced. Turnip and kale crops (reserves for the winter) have had to be fed.

Turretfield.—Weather—The weather this month has been exceptionally dry, only two light showers having fallen, registering 12 points. Crops—The ground is so dry that the majority of farmers have not started sowing; all are anxiously looking for rain. Natural feed is very scarce; stock requires handfeeding; a few ewes are lambing, but the majority of ewes will drop their lambs during May. Pests—Foxes are becoming very troublesome, and baits are being laid for them. Miscellaneous—Farmers who desire to put in stubble land are unable to plough it on account of the hardness of the soil.

Veitch.—Weather—Conditions generally are very dry, only 7 points of rain having fallen up to date for the year. Crops—Seeding operations are going ahead; a large area is now seeded. Natural feed—Only dry feed available. Stock—All in healthy condition. Pests—Rabbits are showing in the fields, and require attention. Miscellaneous—Roads are in a bad state in the district, and require rains to firm the metal and rubble.

DAIRY AND FARM PRODUCE MARKETS.

A. W. Sandford & Co., Limited, reported on May 1st, 1923:—

Butter.—The month of April recorded a very dry season throughout Australia, and those interested in the dairying industry are anxiously looking forward to a good downpour. Supplies of locally-made butter have shown a lessening each week, and heavy importations have been necessary to meet with the local trade. London reports a very dull market at very low prices. This is causing uneasiness throughout the Commonwealth. Values during the month have firmed somewhat,

Over **4,000** Primary Producers
in addition to **HUNDREDS** of business houses
have placed their **TAXATION** matters in our hands.
WE SAVE THEM
TIME, WORRY, AND MONEY!
WE CAN DO THE SAME FOR YOU.

The first year we supply you with our AUTOMATIC INCOME TAX COMPILER (which carries with it 12 months' FREE SUBSCRIPTION to our TAXPAYERS' INFORMATION AND SERVICE DEPARTMENT) wherein you record your transactions under the different headings as they occur. From these records we compile both your

STATE AND FEDERAL INCOME TAX RETURNS,

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PRICE, £2 15., including Automatic Income Tax Compiler and 12 months' free subscription to our Taxpayers' Information and Service Department.

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WRITE US TO-DAY.

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A. SAIDE, A.F.I.A., Secretary (Late of Federal Taxation Dept.).

and at the close the following prices ruled:—First grade to choicest factory and creamery fresh butter in bulk, 2s. 1¾d. to 2s. 2¼d.; prints, ¾d. per lb. extra; second grades, 1s. 4d. to 1s. 5d.; best separators and dairies, 1s. 11d. to 2s. 0½d.; fair quality, 1s. 8d. to 1s. 9d.; store and collectors', 1s. 3½d. to 1s. 5½d.

EGGS.—We have experienced a very active demand this month, and all consignments forwarded to us have met with ready quittance. Supplies have kept up wonderfully well, no doubt the warm weather assisting in this direction, but with the first break in the weather supplies are likely to fall off considerably. Present prices are 1s. 7d. per dozen for fresh hen; duck, 1s. 8d.

CHEESE.—South-Eastern factories have forwarded on fair quantities, and good markets have ruled, but values have an easing tendency owing to the lower rates ruling in Queensland, the range here being from 1s. 1d. to 1s. 2d. for large to loaf.

HONEY.—Values have kept stationary, there being no alteration to record. Good consignments have come forward, but the active demand both for local and export has kept the market fairly clear, prime clear extracted selling at 3½d. to 3¾d.; second grades down to 2d.; beeswax, 1s. 6d. for good samples.

ALMONDS.—The crop this season is apparently a heavy one, judging by the forwardings. Prices have well maintained, Brandis selling at 10d.; mixed softshells, 9d.; hard shells, 4d. to 4½d.; kernels, 1s. 5d.

BACON.—Good supplies of the live animal have been marketed, and this has kept up the supply of bacon. Demand, both local and export, has been fairly good, prices remaining unaltered. Best factory-cured sides, 12½d. to 13d.; hams, 1s. 5d.; middles, 1s. 2d.; rolls, 11½d. Lard, Hutton's, in packets, 9d.; in bulk, 8d.

LIVE POULTRY.—The quantities coming forward during the month have been most extensive, but the pleasing feature is the active demand that has ruled. Buyers have been in full attendance at each of our markets, and very good clearances have been effected, especially for quality lots, so that we can recommend farmers to send along their surplus poultry. Crates obtainable on application. At the last market of the month the following prices ruled:—Prime roosters, 4s. to 6s. 3d. each; nice condition cockerels, 2s. 9d. to 3s. 9d.; poor condition cockerels, 1s. 9d. to 2s. 6d.; plump hens, 3s. 3d. to 4s. 9d.; medium hens, 2s. 3d. to 3s.; light hens, 1s. 9d. to 2s. 2d.; geese, worth 4s. to 5s. 6d.; ducks, good condition, 3s. 6d. to 5s. 6d.; fair condition, 2s. to 3s. 3d.; turkeys, good to prime condition, 1s. to 1s. 8d. per lb. live weight; fair condition, 9d. to 11½d.; fattening sorts lower; pigeons, 6d. each.

POTATOES.—Since our last report the market firmed fairly rapidly, due to the dry weather conditions prevailing, and the Victorian market advancing in consequence. Local potatoes are just about cut out, so that heavy importations from Victoria became necessary. Values at the close of the month were:—Victorian potatoes, from £13 10s. to £15 per ton on trucks Mile End.

ONIONS.—There is practically nothing further to report with regard to this line; supplies have been very plentiful, and quotations are unaltered at 7s. to 8s. per cwt. on trucks.

Mr. Orchardist, has it occurred to you

that **IDLE ACRES PAY NO RENT**, and that those blank spaces in your orchard would become profitable and greatly increase the value of your property if planted with good fruit trees. Fill them this season with **QUALITY FRUIT TREES** from the Balhannah Nurseries.

Send for the **PLANTERS GUIDE**, Post Free to any address.

Inquiries solicited on any matters pertaining to fruit trees.

BALHANNAH DECIDUOUS NURSERIES,
BALHANNAH, SOUTH AUSTRALIA.

RAINFALL TABLE.

The following figures, from data supplied by the Commonwealth Meteorological Department, show the rainfall at the subjoined stations for the month of and to the end of April, 1923, also the average precipitation to the end of April, and the average annual rainfall.

Station.	For April, 1923	To end April, 1923.	Av'ge. to end April.	Av'ge. Annual Rainfall
FAR NORTH AND UPPER NORTH.				
odnadatta	0·02	0·02	2·12	4·93
arree	0·22	0·30	1·88	6·14
arina	0·27	1·78	2·21	6·73
opley	0·83	1·32	2·53	8·50
eltana	0·47	0·89	2·78	9·05
linman	0·21	0·41	3·48	12·61
arcoola	0·20	0·23	2·19	7·91
ookina	0·24	0·89	2·77	13·60
awker	0·27	1·04	2·79	12·93
ilson	0·44	0·44	2·86	12·56
ordon	0·28	0·75	2·89	11·60
uorn	0·28	0·57	3·04	14·24
ort Augusta	0·10	0·17	2·65	9·68
ort Augusta West	0·09	0·18	2·44	9·74
ruce	—	—	2·55	10·76
ammond	1·69	1·88	3·04	11·90
ilmington	0·14	0·22	3·87	18·44
illowie	0·36	0·54	2·85	12·44
elrose	0·27	0·53	4·98	23·88
ooleroo Centre	0·25	0·30	3·40	15·67
ort Germein	0·06	0·20	3·13	12·93
irrabara	0·17	0·26	3·91	19·85
ppila	1·08	1·82	3·47	15·01
radock	0·32	0·72	2·72	11·50
arrieton	0·13	0·42	2·89	12·91
ohnburg	0·02	0·19	2·37	10·85
urelia	0·07	0·33	3·10	13·56
rroroo	0·21	0·57	3·43	13·75
ackara	0·24	0·32	3·12	11·85
lack Rock	0·08	1·02	3·13	12·73
oolta	—	—	2·84	12·10
eterborough	0·21	1·16	3·30	13·53
ongala	0·50	1·27	3·19	14·51
LOWER NORTH-EAST.				
unta	0·20	0·20	2·50	8·93
aukaringa	0·05	0·17	2·56	8·61
annahill	0·04	0·27	2·65	8·79
ockburn	0·05	0·29	2·43	8·42
oken Hill, N.S.W.	0·01	0·65	2·90	10·08
LOWER NORTH.				
rt Pirie	0·01	0·50	3·23	13·55
rt Broughton	0·03	0·38	3·12	14·27
te	0·02	0·06	3·16	15·80
ura	0·28	0·79	3·76	18·25
ltowie	1·01	1·60	3·57	17·19
mestown	0·58	1·55	3·53	17·86
ndaleer W.Wks.	0·43	0·84	3·19	18·05
dstone	0·83	1·56	3·43	16·22
ystal Brook	0·37	0·59	3·34	15·93
orgetown	1·60	1·84	3·80	18·50
rridy	1·02	1·28	3·45	16·43
dhill	0·03	0·84	3·51	16·93
LOWER NORTH—*continued*.				
Spalding	0·17	0·76	3·32	20·41
Gulnare	0·39	0·86	3·15	19·34
Yacka	0·17	0·46	3·00	15·45
Koolunga	0·18	0·48	3·23	15·87
Snowtown	0·05	0·30	3·21	16·05
Brinkworth	0·20	1·06	2·85	16·26
Blyth	0·26	0·63	3·39	16·96
Clare	0·89	1·68	4·71	24·60
Mintaro	1·10	1·64	3·93	23·40
Watervale	1·16	1·64	5·40	27·44
Auburn	0·35	0·76	4·89	24·30
Hoyleton	0·08	0·18	3·75	17·85
Balaklava	0·11	0·39	3·54	15·91
Port Wakefield	0·09	0·32	3·41	13·29
Terowie	0·16	0·39	3·21	13·78
Yarcowie	0·52	0·92	3·31	14·18
Hallett	0·41	1·42	3·22	16·47
Mount Bryan	0·53	0·93	2·98	16·74
Kooringa	0·16	0·61	3·61	18·06
Farrell's Flat	0·40	0·64	3·70	18·97
WEST OF MURRAY RANGE.				
Manoora	0·34	0·66	3·51	18·78
Saddleworth	0·90	1·36	4·17	19·74
Marrabel	0·50	1·19	3·91	19·67
Riverton	0·26	0·73	4·32	20·71
Tarlee	0·68	1·11	3·83	17·81
Stockport	0·67	1·09	3·56	16·49
Hamley Bridge	0·13	0·53	3·69	16·52
Kapunda	0·24	0·72	4·25	19·85
Freeling	0·18	0·67	3·83	17·90
Greenock	0·09	0·72	4·24	21·60
Truro	0·16	0·59	4·02	20·80
Stockwell	0·14	0·50	4·13	20·31
Nuriootpa	0·09	0·45	4·13	20·99
Angaston	0·11	0·36	4·33	22·48
Tanunda	0·07	0·33	4·45	22·20
Lyndoch	0·20	0·43	4·18	22·88
Williamstown	0·04	0·43	4·81	27·47
ADELAIDE PLAINS.				
Mallala	0·08	0·40	3·59	16·66
Roseworthy	0·15	0·75	3·70	17·29
Gawler	0·06	0·52	4·05	19·09
Two Wells	0·08	0·39	3·47	15·83
Virginia	0·10	0·58	3·67	17·31
Smithfield	—	0·37	3·35	17·16
Salisbury	—	0·84	1·96	18·45
North Adelaide	0·04	0·73	4·30	22·22
Adelaide	0·03	0·83	4·20	20·05
Glenelg	0·04	0·76	3·72	18·37
Brighton	0·03	0·72	4·07	21·34
Mitcham	0·03	0·84	4·49	24·06
Glen Osmond	0·01	1·05	4·85	25·78
Magill	0·02	0·94	4·87	25·24

RAINFALL—*continued.*

Station.	For April, 1923.	To end April, 1923.	Av'ge. to end April.	Av'ge. Annual Rainfall
MOUNT LOFTY RANGES.				
Teatree Gully	0·01	1·01	5·11	27·65
Stirling West	0·09	1·40	8·21	46·59
Uraidla	0·14	1·29	7·71	43·92
Clarendon	0·06	0·71	6·34	32·98
Morphett Vale	0·02	0·66	4·61	22·79
Noarlunga	0·02	0·57	4·04	20·35
Willunga	0·04	0·55	4·73	25·89
Aldinga	0·05	0·61	3·89	20·35
Myponga	0·04	1·20	4·38	29·16
Normanville	0·03	0·67	3·84	20·61
Yankalilla	0·03	0·77	4·34	23·10
Mount Pleasant	0·11	0·53	4·87	27·16
Birdwood	0·08	0·51	5·13	29·33
Gumeracha	0·09	0·94	5·76	33·29
Millbrook Reservoir	0·08	1·10	—	—
Tweedvale	0·11	0·66	5·80	35·55
Woodside	0·04	0·62	5·33	32·11
Ambleside	0·04	0·59	5·86	34·67
Nairne	0·05	0·45	5·37	28·42
Mount Barker	0·09	0·90	5·62	31·18
Echunga	0·04	0·66	6·02	32·96
Macclesfield	0·03	0·62	5·62	30·57
Meadows	0·02	0·76	6·58	36·04
Strathalbyn	0·03	0·31	3·93	19.32
MURRAY FLATS AND VALLEY.				
Meningie	0·01	0·58	3·68	18·66
Milang	—	0·34	3·40	15·40
Langhorne's Creek	—	0·29	3·21	14·61
Wellington	—	0·48	3·49	14·77
Tailem Bend	—	0·46	3·11	14·55
Murray Bridge	0·08	0·34	3·38	13·93
Callington	—	0·19	3·38	15·42
Mannum	—	0·23	2·94	11·64
Palmer	0·04	0·04	3·13	15·47
Sedan	0·04	0·09	2·87	12·29
Swan Reach	0·03	0·18	2·57	11·09
Blanchetown	0·03	0·07	2·67	10·16
Eudunda	0·06	0·97	3·65	17·54
Sutherlands	0·07	0·38	2·25	11·19
Morgan	—	0·27	2·22	9·30
Waikerie	0·08	0·08	2·50	9·91
Overland Corner	0·14	0·16	2·90	11·07
Loxton	0·07	0·31	3·40	12·63
Renmark	—	0·02	2·78	11·09
WEST OF SPENCER'S GULF.				
Eucla	0·19	1·03	3·45	10·02
White Well	—	0·20	2·08	9·08
Fowler's Bay	—	0·89	2·27	12·16
Penong	0·05	0·28	2·47	12·49
Ceduna	0·06	0·44	1·85	10·36
Smoky Bay	0·27	0·81	1·99	—
Petina	0·05	0·47	2·03	13·34
Streaky Bay	0·22	0·76	2·59	15·10

Station.	For April, 1923.	To end April, 1923.	Av'ge. to end April.	Av'ge. Annual Rainfall
WEST OF SPENCER'S GULF—*continued.*				
Talia	0·18	0·58	1·95	15·4
Port Elliston	0·04	0·50	2·45	16·5
Cummins	—	0·33	1·98	18·9
Port Lincoln	0·03	0·39	3·41	19·7
Tumby	0·08	0·60	2·50	14·7
Carrow	0·32	0·65	2·70	14·9
Arno Bay	0·09	0·63	2·81	13·3
Cowell	0·06	0·60	3·28	11·7
YORKE PENINSULA.				
Wallaroo	0·08	0·14	3·19	14·
Kadina	0·13	0·19	3·44	16·0
Moonta	0·02	0·34	3·47	15·3
Green's Plains	0·05	0·33	3·10	18·
Maitland	0·09	0·69	3·85	20·1
Ardrossan	0·07	0·81	2·97	14·
Port Victoria	0·09	0·82	3·16	15·
Curramulka	0·08	0·61	3·42	18·
Minlaton	0·17	0·74	3·33	17·
Brentwood	0·28	0·59	3·01	15·
Stansbury	0·26	0·75	3·25	17·
Warooka	0·14	0·59	3·04	17·
Yorketown	0·28	0·66	3·40	17·
Edithburgh	0·33	0·91	3·31	16·
SOUTH AND SOUTH-EAST.				
Cape Borda	0·06	0·73	3·98	25·
Kingscote	0·15	0 50	3·22	19·
Penneshaw	0·03	0·58	3·21	19·
Victor Harbor	—	0·47	4·19	21
Port Elliot	—	0·62	4·06	20
Goolwa	—	0·41	3 79	17
Pinnaroo	—	0·21	3·43	15
Parilla	—	0·10	2·59	14
Lameroo	—	0·37	3·15	16
Parrakie	0·21	0·57	2·50	14
Geranium	—	0·57	2·97	16
Peake	—	0·60	3·49	16
Cooke's Plains	0·01	0·65	3·22	1
Coomandook	—	0·56	3·19	1
Coonalpyn	—	0·79	3·50	1
Tintinara	—	0·61	3·50	1
Keith	—	0·65	3·23	1
Bordertown	—	0·42	3·83	1
Wolseley	0·11	0·53	3·51	1
Frances	—	0·55	3·68	1
Naracoorte	—	0·66	4·31	2
Penola	0·02	1·04	5·00	2
Lucindale	—	0·64	4·10	
Kingston	—	0·98	4·89	
Robe	—	0·91	4·27	
Beachport	—	0·45	4·89	
Millicent	—	1·03	5·60	
Kalangadoo	0·01	1·38	—	
Mount Gambier	0·01	1·04	6·29	

AGRICULTURAL BUREAU REPORTS.

INDEX TO CURRENT ISSUE AND DATES OF MEETINGS.

Branch.	Report on Page	Dates of Meetings	
		May.	June.
Alawoona	*	—	—
Aldinga	*	30	—
Allandale East	935	—	—
Amyton	*	28	25
Angaston	*	—	—
Appila-Yarrowie	*	—	—
Arthurton	‡	—	—
Ashbourne	‡	—	—
Balaklava	*	12	9
Balhannah	935	4	29
Barmera	928	1, 29	26
Beetaloo Valley	‡	—	—
Belalie North	*	26	23
Berri	928	2, 30	27
Big Swamp	*	—	—
Blackheath	929	25	29
Black Springs	922	—	—
Blackwood	*	21	18
Block E	*	29	26
Blyth	922	5	2
Booleroo Centre	918	25	22
Borrika	*	—	—
Bowhill	*	—	—
Brentwood	*	24	28
Brinkley	*	26	23
Bundaleer Springs	922	28	25
Burra	*	—	—
Bute	*	1, 29	26
Butler	927	—	—
Cadell	*	—	—
Canowie Belt	*	—	—
Carrow	§	24	28
Cherry Gardens	930	1, 29	26
Clanfield	*	—	—
Clare	‡	25	22
Clarendon	‡	28	25
Claypan Bore	*	2, 30	27
Cleve	*	30	27
Collie	*	26	23
Colton	*	25	29
Coomandook	928	30	27
Coonalpyn	*	4	1, 29
Coorabie	*	—	—
Cradock	*	—	—
Crystal Brook	*	25	28
Currency Creek	930	—	—
Cygnet River	‡	24	22
Darke's Peak	924	23	—
Dawson	*	—	—
Denial Bay	*	—	—
Edillilie	*	26	30
Elbow Hill	*	1	5
Eurelia	918	18	15
Farrell's Flat	*	—	—
Frances	936	26	30
Gawler River	*	1, 29	26
Georgetown	*	26	23
Geranium	*	26	30
Gladstone	920	—	—
Glencoe	*	—	—
Glossop	928	30	27
Goode	*	2, 30	27
Green Patch	*	28	25
Gumeracha	*	28	25
Halidon	*	—	—
Hartley	*	30	27
Hawker	*	1, 29	26
Hilltown	*	—	—
Hookina	917	24	28
Inman Valley	*	—	—
Ironbank	*	26	23
Kadina	*	—	—
Kalangadoo	*	12	9
Kangarilla	932	—	—
Kanmantoo	*	26	23
Keith	*	—	—
Ki Ki	*	—	—
Kilkerran	924	1, 29	26
Kimba	*	—	—
Kingscote	*	—	—
Kingston-on-Murray	*	—	—
Kongorong	935	24	28
Koonibba	*	25	22
Koppio	924	28	25
Kybybolite	*	24	28
Lake Wangary	928	26	23
Lameroo	*	4	1, 29
Laura	‡	—	2, 30
Leighton	*	—	—
Lenswood and Forest Range	*	—	—
Lipson	‡	—	—
Lone Gum and Monash	929	30	27
Lone Pine	‡	—	—
Longwood	933	—	—
Loxton	*	—	—
Lucindale	*	—	—
Lyndoch	923	24	28
McLachlan	928	6	2
MacGillivray	934	1, 29	26
Maitland	*	24	28
Mallala	922	21	18
Maltee	928	25	22
Mangalo	*	—	—
Marama	929	—	—
Meadows	‡	2, 30	27
Meningie	*	—	—
Milang	*	12	9
Millicent	*	5	2
Miltalie	*	26	23

INDEX TO AGRICULTURAL BUREAU REPORTS—*continued.*

Branch.	Report on Page	Dates of Meetings.	
		May.	June.
Mindarie	*	7	4
Minlaton	*	25	22
Minnipa	*	30	27
Monarto South	928	26	23
Moonta	924	26	22
Moorak	*	24	28
Moorlands	*	—	—
Moorook	*	—	—
Morchard	*	26	23
Morgan	*	—	—
Morphett Vale	934	3, 31	28
Mount Barker	*	30	27
Mount Bryan	*	—	—
Mount Byran East	*	—	—
Mount Compass	*	—	—
Mount Gambier	*	12	9
Mount Hope	925	26	23
Mount Pleasant	935	—	—
Mount Remarkable	*	—	—
Mount Schank	*	—	—
Mundalla	*	30	27
Murray Bridge	*	—	—
Mypolonga	*	30	27
Myponga	*	—	—
Nantawarra	*	24	28
Naracoorte	‡	12	9
Narridy	*	—	2, 30
Narrung	*	—	2, 30
Neeta	*	—	—
Nelshaby	*	26	23
Netherton	*	—	—
North Booborowie	920	—	—
North Bundaleer	*	—	—
Northfield	*	—	—
Nunkeri and Yurgo	*	6	3
O'Loughlin	*	30	27
Orroroo	*	—	—
Owen	*	25	22
Parilla	‡	25	22
Parilla Well	*	28	25
Parrakie	*	—	—
Paruna	*	—	—
Paskeville	924	25	22
Pata	*	—	—
Penola	‡	5	2
Petina	*	26	30
Pinnaroo	*	—	1, 29
Pompoota	*	9	13
Port Broughton	*	25	22
Port Elliot	*	19	16
Port Germein	*	5	2, 30
Pygery	*	—	—
Ramco	928-9	28	25
Rapid Bay	*	5	2
Redhill	920	1, 29	—
Rendelsham	*	30	27
Renmark	*	24	28
Riverton	*	—	—
Riverton (Women's)	*	—	—
Roberts and Verran	*	24	28
Rockwood	*	4	—
Rosedale	924	—	—
Rosy Pine	*	—	—
Saddleworth	*	—	—
Saddleworth (Women's)	924	8	11
Salisbury	*	1	5
Salt Creek	*	—	—
Sandalwood	*	—	—
Shoal Bay	*	1, 29	26
Smoky Bay	‡	—	—
Spalding	*	—	—
Stockport	922	—	—
Streaky Bay	*	—	—
Strathalbyn	*	1, 29	26
Talia	926	14	11
Tantanoola	*	26	23
Taplan	‡	5	2, 30
Tarcowie	917	1, 29	26
Tarlee	*	—	—
Tatiara	936	19	16
Two Wells	*	—	—
Uraidla & Summertown	*	7	4
Veitch	*	—	—
Virginia	*	—	—
Waikerie	*	—	—
Wall	*	—	—
Wanbi	*	—	—
Warcowie	918	—	—
Watervale	924	—	—
Weavers	*	28	25
Whyte-Yarcowie	920	—	—
Wilkawatt	*	26	23
Williamstown (Women's)	924	2	6
Williamstown	‡	—	—
Willowie	*	30	27
Wilmington	917-8	30	27
Windsor	‡	28	5
Winkie	929	—	—
Wirrabara	921	5	2
Wirrega	*	—	—
Wirrilla	*	26	23
Wirrulla	928	26	23
Wolowa	*	—	—
Wudinna	928	5	9
Wynarka	*	—	—
Yabmana	*	—	—
Yacka	*	1, 29	26
Yadnarie	926-7	1, 29	26
Yallunda	*	—	—
Yaninee	*	—	—
Yeelanna	*	26	23
Yongala Vale	*	—	—
Yorketown	*	—	—
Younghusband	*	3, 31	28

* No report received during the month of April. ‡ Held over until next month. § Formal.

THE AGRICULTURAL BUREAU OF SOUTH AUSTRALIA.

Every producer should be a member of the Agricultural Bureau. A postcard to the Department of Agriculture will bring information as to the name and address of the secretary of the nearest Branch.

If the nearest Branch is too far from the reader's home, the opportunity occurs to form a new one. Write to the department for fuller particulars concerning the work of this institution.

REPORTS OF BUREAU MEETINGS.

UPPER-NORTH DISTRICT.

(PETERBOROUGH AND NORTHWARD.)

HOOKINA (Average annual rainfall, 12in.).

March 29th.—Present: 12 members and three visitors.

WINDMILLS.—Mr. A. B. Murphy contributed a paper. The method of raising water with a windlass and bucket, he said, was quite out of date, and involved too great an expenditure of time. With a pumping plant and a large storage tank the water was available for the stock whenever they required a drink. The windmill worked more cheaply than other pumping plants, and was easily kept in order. The initial cost was practically the only cost, and the working parts gave long service. Care should be taken to ensure that the mill when erected was perfectly upright, otherwise it would be more difficult to turn on the turntable, and in cases where a cylinder pump was used it would cause excessive wear in the pipes. When erecting a mill it was necessary to use a plumb line and spirit level. If the plumb line was hung from the rod connection at the turntable it should reach the ground in the centre between the legs of the mill. When mills were erected at any distance from the home, a self-acting gear should be used to put the mill out of action when the tank was full. All spare parts should be kept on hand, so that in the event of a breakage it could be repaired within a short time. If more than one mill was used on the farm, he favored procuring them all of the same make and pattern, to obviate the necessity for keeping an excessive number of spare parts. During the discussion which followed, Mr. M. Henschke considered that, in addition to a windmill, an engine that could be moved easily from one well to another should also be kept. A mill and large storage tank, preferably of concrete, capable of holding a four days' water supply, should be erected at each bore or well. That would enable repairs to be made, or give time to shift the engine to the well in the event of a calm spell.

TARCOWIE.

March 27th.—Present: 14 visitors and one visitor.

HARVEST REPORT.—Mr. J. Ninnis contributed a paper under this heading, in the course of which he reviewed the weather conditions in so far as they influenced the harvest.

WILMINGTON (Average annual rainfall, 18.26in.).

February 28th.

JUDGING HORSES BY POINTS.—Mr. J. Y. Schuppan, who contributed a paper on this subject, said he thought that if a system of judging horses at agricultural shows by points were instituted, much would be done toward the improvement of stock. Quality should be the main factor, and should be given half the number of points, namely, 50. Consideration should then be directed to the action of the horse. This should be allotted 25 points. Following that should come temper. A person might have a very active horse which had a quick temper, which might cause it to become excited and make false strides or movement and exhaust itself for no purpose. An active horse should have an even stride and a quick movement. There were certain ways by which the temper could be judged, such as the movement of the eye. The tail and mane should be given 15 points A tail or mane of a curly nature was more often found in a quick-tempered horse than in the calm-natured animal. Then should follow the condition of the animal, which was also of importance. A good doer would complete more work on less feed, and that would prove a benefit to his owner. Condition should be awarded 10 points, making a total of 100 points. If a system of points were adopted it would be far easier for judges to judge for the benefit of the public, and competitors would know exactly why their horses failed, and also what class of horse to show, because judges varied in opinions.

MARKETING OF WHEAT.—Mr. E. L. Carlyon then contributed a paper on this subject. The standard of Australian wheat, he said, had dropped considerably in the world's markets. Instead of occupying top position, as it did some years ago, it now occupied fourth or fifth position on the list. He considered that the cause was the way the wheat was marketed. Wheat grown in that district in a few cases showed a tendency to contain too much barley. The cause, in his opinion, was that the farmer sowed an impure sample of wheat; the yield of wheat for that season was light, and the barley yield heavy; the percentage of barley was increased, and a dock—which was a direct loss to the owner—was imposed. Some samples contained an excessive amount of cocky chaff, whilst others contained broken grain. The sample containing cocky chaff appeared to be more in evidence at the commencement of the season, when the owners had not the various machines in good running order. With regard to the broken grain, that was usually grain that had been treated with the reaper-thresher. Broken grain, he thought, could be avoided to a great extent, because sometimes one farmer made a perfect sample, and the next farmer almost screenings, both samples being taken off with a reaper-thresher of the same make. Broken grain produced an inferior sample of flour, and was ground separately by millers. He impressed upon the members the necessity for keeping the standard of the wheat marketed as high as practicable, because the best price could then be demanded for the grain.

WILMINGTON (Average annual rainfall, 18.26in.).

March 28th.

PLANTING ORANGE TREES.—"The orange tree will grow quickest in black sandy soil," said Mr. H. Schulz in a paper on this subject. The soil should be well worked and turned over with a spade to a depth of 15in. during May. It could again be broken up during autumn to allow it to sweeten before planting time. After planting, plenty of stable manure should be spread around the tree, and turned in deeply with a digging fork. A stake should also be driven in to support the tree. On receipt of the tree from the nursery the roots would be found to be curled up in a clump; these should be carefully straightened out, any broken parts cut off, and the tap-root severed as close as possible to the surface roots. The tree should then be planted not quite as deeply as it was in the nursery, and the surface roots spread out evenly. To water the tree, a trench should be dug encircling the tree and the water allowed to run into it. At each successive watering the trench should be dug a little further away from the tree to entice the roots to grow outwards, and prevent the tree becoming rootbound. On no account should a crust be allowed to form on the surface of the ground.

EURELIA, March 23rd.—The arrangements in regard to the Conference, to be held at Morchard during July, were discussed, and a programme of meetings for the ensuing year drawn up.

WARCOWIE, April 4th.—A discussion took place on the inauguration of crop competitions, after which arrangements were made for the next meeting of the Branch.

MIDDLE-NORTH DISTRICT.

(PETERBOROUGH TO FARRELL'S FLAT.)

BOOLEROO CENTRE (Average annual rainfall, 15.83in.).

March 29th.—Present: 10 members.

PREPARATIONS FOR SEEDING.—In a paper on this subject, Mr. A. Wilby stated that the best time to plough, harrow, or cultivate, when weeds rendered it necessary, was after a rain. Although weeds could be killed more easily during dry

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Per H. H. Cadd.

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weather, the land could not be worked so well. Sheep could be used to great advantage, especially during harvest time, when farmers could not get on to the fallow to work it. It was advisable to harrow the land, if rain fell after harvest, to conserve the moisture. The selection of seed wheat should receive a great deal of attention, and an endeavor should be made to choose the variety best suited for that district. After a selection had been made the wheat should be thoroughly cleaned. He thought the grader was best suited for that purpose, because it rejected all except the best and most plump grains. The wheat should be pickled about a fortnight before sowing, because it would then have time to dry thoroughly, and no time would be lost if rain fell early in the season. It was not necessary to use a stronger solution than 1lb. of bluestone in 10galls. of water for smutty wheat, but he thought it was advisable to keep it in the pickle a little longer. He favored pickling in a cask, because it was an easier and quicker method, and, he thought, just as efficient. The drill and cultivator should be overhauled before sowing time, and spare parts procured for any of the bearings that were weak. A good discussion followed the reading of the paper.

GLADSTONE.

April 6th.—Present: five members.

Homestead Meeting.—The monthly meeting of the Branch was held at the residence of Mr. A. B. Blesing. After the delegates to the Conference had given a detailed account of the proceedings, several matters of interest were discussed by those present.

NORTH BOOBOROWIE (Average annual rainfall, 16.35in.).

April 7th.—Present: eight members.

Mr. F. Clark read an article from the *Journal* entitled "Care of the Working Horse." In the discussion which followed, Mr. B. C. Mannion said he thought it was a mistake to feed oaten hay only to working horses because it was too heating. Several other members were of the same opinion. Messrs. E. Dawson and F. Giles thought it was a good plan to have the water trough situated some distance from the stable. That would not only keep the trough free from manure and chaff, but would lead the horses into the habit of taking one long drink. Mr. Thomas was of the opinion that it was a bad plan to feed light horses immediately before they commenced a journey; they should be kept away from the chaff for at least half an hour; that would enable them to digest their food before starting.

REDHILL (Average annual rainfall, 16.79in.).

April 10th.—Present: 11 members and one visitor.

Most Suitable Class of Draught Horse for the District.—Mr. A. V. Crouch contributed a paper under this heading. He did not favor the heavy horse for that district, but preferred a sturdily-built and big-boned animal with not too much hair. A pure Clydesdale stallion mated with a good draught mare would produce fine stock suitable for farm work. He was of the opinion that horse-breeding was not given the attention it deserved, and thought farmers were overlooking that very important item. He thought it would be some years before tractors would take the place of horses. A good discussion followed.

WHYTE-YARCOWIE (Average annual rainfall, 13.91in.).

March 10th.—Present: six members.

Breeding Merino Sheep.—Mr. A. E. Green contributed a paper on this subject. Sheep were a valuable asset on any farm, he said, but that district had proved to be unsuitable for fat lamb raising. To build up a Merino flock a good foundation was necessary. He would select a good type of well-built, deep-sided ewe, densely and evenly clad with a good class of wool. The ewe should possess plenty of character, but not be too heavy in condition. It should also have a good bold front with two cross folds on the neck. He would mate ewes of that class with a ram possessing bright wool a little stronger than the wool on the ewe. The ram should be well grown and healthy, with a good pair of horns standing well out from the head. In securing a ram it was necessary to procure the best animal available. To keep the flock even it was necessary to have at least three paddocks for the sheep during mating time, which should be from November 1st to January 1st in that district. The ewes would then commence to lamb about April 1st, and would finish by the end of May. For the first paddock he would select all the strong, open-woolled ewes, and mate them with a dense, fine-woolled ram; by doing that 80 per cent. or 90 per cent. of the lambs would have good medium coats. For the second paddock all the medium-woolled ewes should be selected and mated with a ram possessing wool a little stronger than that of the ewes. All the dense and finely-woolled ewes should then be picked out and mated with a strong-woolled ram. It was necessary to go through the flocks once a year, and cull out all the sheep that were not up to standard type. Sheep with long and open or short and dense fleeces should be avoided, and sheep that were sickly or unhealthy should on no account be used for breeding. During the discussion which followed, Mr. McCallum thought that it would prove more practicable on a mixed farm to confine attention to one type of sheep only, culling and selling all that did not conform to that type.

WIRRABARA (Average annual rainfall, 18.91in.).

March 10th.—Present: 16 members.

THE RAT PEST.—Mr. P. J. Curnow contributed a paper. On farms where cereals were unprotected, he said, serious damage was done annually by rats. Unless barns and storerooms were ratproof a heavy toll was taken of seed wheat. Not only would those rodents eat all grain substances, but would gnaw harness if recently greased or oiled, and any substance that contained fatty matter. Rats were very prolific, up to 10 young ones being reared at one time. They were so cunning that capture by traps was difficult. The writer thought the simplest method was to place a set trap in a shallow box containing wheaten chaff with a sprinkling of oats, all but the tongue of the trap being carefully covered, care being taken to allow the trap to shut without hindrance. Another good method was to place a carbide or petrol tin containing a couple of inches of waste honey or molasses covered with a thin layer of chaff, and sprinkled with oats or other

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grain, in an infested shed. A third method was to place a thin cover of paper over a tin of water deep enough to prevent the animals' escape. The tin could be placed where they ran, and several would then be trapped. If rats were eating bagged chaff a good plan was to place a quantity of poisoned wheat with waste chaff in an old bag with holes in it. That plan would also answer for sparrows. Care should be taken to prevent access by domestic animals. All kinds of baits were sometimes useful, but as a rule only a few rats were caught before the rodents became so cunning that the use of baits was of doubtful value, especially where domestic animals were likely to be poisoned. So serious was the presence of rats in any home or on farms that it became the duty of everyone to destroy them where possible.

BLYTH, April 7th.—A debate on the subject "Tractor versus Horses" took place. Messrs. E. H. Lanyon, J. S. McEwin, J. Drennan, J. G. Harmer, T. Roberts, and A. L. McEwin spoke.

BUNDALEER SPRINGS, March 25th.—The officers for the ensuing year were elected, after which the committee drew up a programme for the next six months.

LOWER-NORTH DISTRICT.

(ADELAIDE TO FARRELL'S FLAT.)

BLACK SPRINGS.

February 27th.—Present: 18 members.

Sheep on the Farm.—Mr. A. Mickel contributed a paper on this subject. He was of the opinion that sheep were the most profitable side line on the farm. Good ewes should show a return of from 20s. to 30s. per head per year. Overstocking was a bad policy. If the ewes were in poor condition the percentage of lambs would then be low, and the wool of less value. The Merino, he thought, was the best all-round sheep, but if it was intended to go in for lamb raising, and the fences were in good repair, and the feed good, he thought the Dorset Horn or Shropshire would show a better return. He advised frequent changes from one paddock to another. A sufficiency of water was an important item, especially when the feed was dry. Sheep should not have to walk a long distance to secure it, because they would then not put on condition. Ewes when lambing should have a fresh paddock, with plenty of feed and water close handy. He thought the lambs should be dropped during March or April, and allowed plenty of feed during the winter and spring months. Lambs should be fit for the freezer when they were six or seven months of age. Sheep were a great help in keeping the land free from weeds. A good discussion followed the reading of the paper.

MALLALA (Average annual rainfall, 16.88in.).

March 19th.—Present: 11 members and six visitors.

Superphosphates.—Mr. Harfield addressed the meeting on this subject, and dealt with the first introduction of superphosphates into the Port Broughton district. In his experience of about 25 years from the introduction of fertilisers he found that phosphatic manures were most suitable to the whole State. The most favorable quantity to sow as a dressing on well-worked ground was between 100lbs. to 156lbs., with a general tendency to the greater amount. During the ensuing discussion, Mr. J. C. Catt said he advocated the Government sampling the soil to ascertain which constituents were lacking. That district should produce crops of 30bush. to 40bush., instead of about a 15bush. average. Mr. P. Ross advocated heavier dressings of superphosphate, because they resulted in the growth of more wheat and grass. Crops lodged under excessive dressings, and would not turn out perhaps the same amount of wheat.

STOCKPORT (Average annual rainfall, 15.89in.).

March 27th.—Present: 13 members.

Summer Working of Fallow.—Mr. D. L. Stribling, who contributed a paper under the above heading, said he thought that, under some circumstances, fallow could be worked at any time during the summer without any great disadvantage accruing therefrom. Early fallow, say, June, July, or August, well harrowed twice and cultivated carefully during spring time would experience very little harm from summer working if it was necessary. But he thought to work along the lines of "Prevention is better than cure" was the safest possible course to pursue. He advised fallowing the land before the end of August, then with a thorough spring working, the land should be left in fine condition, and if summer rains should come, and with them the usual crop of summer weeds, thorough working with the harrows would do all that was required, and he thought it would pay handsomely to leave the hay carting or wheat carting for a day or so whilst that was done. On the other hand, it was not an uncommon practice for farmers to delay their fallowing in order to make the most of the feed, &c. The result was that they were trying to fallow when they should be cultivating, and when the summer rains fell it was all confusion, the farmer not knowing which piece of fallow to work with in the day or two at his disposal. It was on that kind of fallow that summer working generally had its ill effects, because, instead of the land being settled or consolidated, it was open to the heat of the sun, and much of the moisture that was conserved during fallowing and subsequent operations was evaporated. Good crops had been grown on that type of fallow, but followed year after year ultimate failure would result. It was impossible to lay down any hard-and-fast rules, but in a country that was likely to be more or less dry it was necessary to endeavor to conserve as much moisture as possible in the land. Summer working of fallow, which could generally be avoided, was the undoing of that object, and could, to a great extent, be eliminated from the practice of farming if the various operations were completed in their proper seasons. During the ensuing discussion the consensus of opinion was that if the operations as outlined in the paper were carried out a good seedbed would be made, and better crops would be the result.

LYNDOCH, March 28th.—Mr. E. C. Filsell tabled samples of dried prunes, Gordos, and apples, and a branch and fruit of brinjall, or "egg fruit," was tabled by Mr. A. Springbett.

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ROSEDALE, March 28th.—After the officers for the forthcoming year had been elected, a discussion took place on the result of the last harvest. Messrs. Nettlebeck Bros. were successful in winning the prize offered by the President (Mr. G. C. Heinjus) for the best crop of wheat.

SADDLEWORTH WOMEN'S, April 10th.—A programme for the forthcoming season was drawn up, after which Mrs. Garrett addressed the members on the cultivation of dahlias.

WATERVALE, April 9th.—Mr. J. Angus delivered an address entitled "Cotton Growing at Watervale," which was followed by a good discussion.

WILLIAMSTOWN WOMEN'S, April 4th.—Arrangements were made for the Conference at Williamstown, after which Mrs. Filsell contributed a paper dealing with the pickling of cucumbers in the English and German methods.

YORKE PENINSULA DISTRICT.

(TO BUTE.)

KILKERRAN, March 27th. Present: six members.—TRACTORS *versus* HORSES. —Mr. C. Heinrich contributed a paper on this subject. During the discussion the majority of the members favored the use of horses. Mr. B. A. Koch favored the tractor; he said that after using his tractor for three years he had not noticed any wear in the cylinders or main bearings. Mr. C. Heinrich agreed to read his paper before the forthcoming Conference at Minlaton.

MOONTA, April 7th. Present: 10 members and one visitor.—Mr. Geo. Page gave an instructive address on his experiences with ensilage, and several other members also spoke on that subject.

PASKEVILE, March 27th.—The proposal for the inauguration of crop growing competitions was discussed.

WESTERN DISTRICT.

DARKE'S PEAK.

March 28th.—Present: seven members.

PICKLING WHEAT WITH FORMALIN.—Mr. H. Hampel contributed a paper on this subject. He was of the opinion that pickling with formalin was the surest method of preventing smut. He had pickled one sample of wheat with bluestone and another with formalin, and drilled them in under the same conditions, when the land was very boggy and the weather showery. The sample that had been pickled with formalin was practically free from smut, whereas the other had to be cut for hay on account of the heavy infection. Formalin pickling was easier and cheaper than the bluestone method. One gallon of the former was sufficient to pickle about 120 bags of wheat, and would cost about 30s. per gallon. He would use one pint of formalin to 40 gallons of water. He would treat the wheat on the day or evening prior to sowing and sow whilst it was still damp—provided the land was wet enough to start the grain. If sowing in dry land, he would pickle the wheat about a fortnight beforehand. He had noticed that wheat pickled with formalin appeared a day or two before wheat pickled with bluestone.

KOPPIO (Average annual rainfall, 22.40in.).

January 30th.—Present: eight members.

The meeting took the form of a question box, when a number of questions were asked and answered by those present. At a previous meeting, held during December, Mr. T. Brennand contributed the following paper, entitled "Shoeing the Colt's Foot." When a colt reached the age of two months, he said, its feet should be carefully examined. If it was found that the toes were excessively long they should be shortened, and the heels should be cut down if they were abnormally high. If the colt showed an inclination to become "knock-kneed" the outer side of the hoof, especially the outer toe, should be rasped down. By following that practice about once a month the hoof could be gradually brought into the correct shape. It was advisable when dressing the hind feet to keep the toes short and well rounded off, then when the time arrived for shoeing, the hoof would be of the correct shape. The first shoes, being chiefly for protection, should be light, and the nail holes as few as possible, and punched well towards the toe, so as to allow for the natural expansion of the heels. It was undesirable to interfere with the growth of the foot, other than to reduce the wall sufficiently to obtain a good bearing for the shoe. The frog, bars, and sole should on no account be cut, and the more sole that was left, the less would the farmer have to contend with bruises and corns. The more frog bearing saved, the more jarring and concussion would be prevented. When the hoof came in contact with the road it should be balanced and level, and the muscles of the feet would then not become strained. He then emphasised the necessity for keeping the horse in good condition. A good discussion followed the reading of the paper. Mr. H. Roberts sought the opinion of members as to the most effective baits for poisoning rabbits. Mr. Barraud said he obtained good results from raspberry jam and strychnine. Mr. G. B. Gardener gave some of his experiences with phosphorus poisoning, and thought that settlers should do all in their power to diminish the pest.

MOUNT HOPE.

March 31st.—Present: six members.

How to Prepare a Wool Clip.—Mr. T. Speed contributed a paper on this subject. The first operation, he said, was to clean out the shed to ensure that no vegetable matter came in contact with the wool. A bin should be provided for each lot of wool. The fleece should be picked up by the breech and thrown on to the table, where the belly should be taken off and the fleece trimmed around

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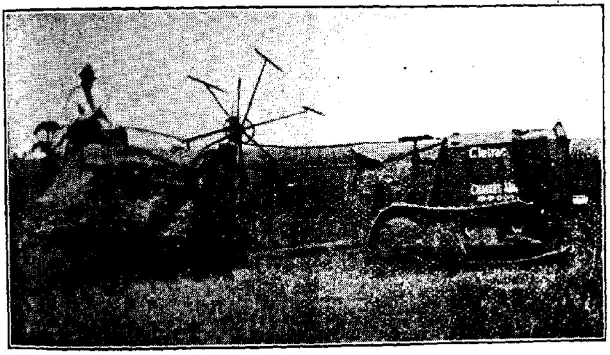

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the edge. The bellies should also be trimmed, and the centre piece taken out. That would enhance the value of the fleece. If the fleeces were packed with the skirts and bellies on it would discourage competition, because many buyers would not purchase wools containing them. There should be two classes of pieces, the first being marked AA, consisting of the lightest and brightest pieces, and the second marked A, consisting of heavy-conditioned, short, and discolored wool and trimmings from the first pieces. The fleece, after being skirted, should be rolled up neatly by turning in the sides, and rolling from the breech to the shoulder, so that the most attractive part of the fleece was showing when the bale was opened. The fleece wool should have any very dirty or ragged fleeces taken out and packed separately. The bales should be sewn up and branded neatly. In the discussion which followed, Mr. R. L. Myers was of the opinion there should be three classes of pieces. He thought all the stained pieces should be taken out and packed separately. The Hon. Secretary (Mr. H. F. Myers) also joined in the discussion, and gave a few notes he had received at the Roseworthy Winter School on the subject.

TALIA.

March 10th.—Present: nine members and four visitors.

Colt Breaking.—Mr. F. Wheaton contributed a paper on this subject. He said a strong stockyard was a necessity. There should be no projecting rails at the end of the joins, because there would be a danger of the animal becoming staked whilst running about prior to being caught. Care should be taken when the animals were first yarded that they were not excited more than was necessary. If a crush pen was not available, a lassoo rope would have to be used for catching the animal. If a colt had been previously handled when a foal he would soon quieten down when caught. Kindness, firmness, and patience should be exercised with the young animal, but not brutality. The colt should not be handled roughly, because that often made him more obstinate and unruly, but should be given plenty of time to learn the things which were required of him. After being secured with a rope around the neck, he should be brought as close as possible to the tie-up post, which should be in a convenient position in the stockyard. The head stall should then be put on and the bit, which should be attached to the head stall by short straps, placed in the mouth. He favored the surcingle method of mouthing at first, and after the reins had been tied evenly on both sides, the colt should be taken out and driven about for a while with two long reins, and taught to stop and start with the usual commands. The colt should then be harnessed to a log and driven about. That would help greatly to make him staunch, and at the same time teach him to pull whilst alone. He advised placing a bran bag, which had previously been dipped in clean water and rung out, under the collar. That would prevent the tender skin of the colt from scalding and blistering, and was also a remedy for sore shoulders. The greatest attention should be given to the neck and shoulders from the start, and the collar should be made to fit thoroughly; the chains should also be of even length. The young colt should not be worked more than a few hours each day. If two horses were being broken in on the same day, one could be put in the team before dinner, and the other afterwards. They should be placed only amongst good reliable workers and alongside the quietest horse in the team. It was a pleasure to work a team that had been handled properly, and a little extra time spent in the schooling of a young horse when breaking in was well spent. Bad temper and vice in a horse were generally the results of ill-treatment and unkindness when it was being handled. A good discussion followed the reading of the paper.

YADNARIE (Average annual rainfall, 14.09in.).

February 27th.—Present: 16 members.

The monthly meeting of the Branch was held at the residence of Mr. F. W. Jericho. After a discussion had taken place on the proposed field trial, the secretary (Mr. W. E. Hier) gave an address entitled "Practical Demonstration on a Farm." He thought all farmers should not only be willing to learn, but also ready to show others the best way to use an implement. He was of the opinion most of the land in that district required light working only, and thought it would pay to harrow growing crops if the land was clear of rubbish, but when the land was new it was an advantage if sticks were left on the ground, because they would be a help during fire-raking. New land should not be harrowed when the crop was up. During the discussion which followed Mr. Deer thought that the use of a tractor would make farming operations more interesting, and it would also enable much time to be saved during the seeding months. Messrs. A. A. Jericho, W. Brown, and J. J. Deer did not think that harrowing a growing crop would pay in that district. The chairman (Mr. O. Forbes) thought that if sheep were kept on the fallow, weeds would not become troublesome, and in that case, the cultivator would be the best implement to use. He did not think it would pay to harrow a growing crop unless the soil was very stiff.

YADNARIE (Average annual rainfall, 14.09in.).
April 3rd.—Present: 11 member and one visitor.

STORING OATS.—Mr. W. O. Kruger contributed a paper on this subject. He thought the best receptacle for storing oats was a mouse-proof barn built of stone and iron or wood and iron raised off the ground. That would serve for a long period for storage either in bulk or bags. A cheaper method of storing for a short period was to cover the uncleaned oats with straw in a shed. That was preferable to stacking the grain in bags in the open, where it was exposed to the weather and open to attack by mice and weevils. During the discussion which followed Mr. F. W. Jericho stated that he favored stacking oats in the open, and encircling the stacks with sheets of iron to keep out the mice. If left in a heap, care should be taken to choose a suitable floor and to cover the oats well with straw. The majority of members favored a mouse-proof shed for storing oats.

BUTLER, March 31st.—Members discussed the proposed inauguration of crop growing competitions. Discussion then took place on the benefits that were being derived from the experimental plots in that district conducted by Mr. C. F. Jericho under the direction of the Department of Agriculture.

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LAKE WANGARY, March 21st. Present: 13 members and 11 visitors.—Mr. A. H. Codrington (Wool Instructor, School of Mines) delivered an address on sheep and woolclassing, and replied to a number of questions that were asked by those present.

MALTEE, March 30th.—The inauguration of crop growing competitions was discussed.

McLACHLAN, April 7th.—Mr. W. F. Attick read a paper from the *Journal of Agriculture* entitled "Wheat Varieties," and a good discussion followed. The proposed crop growing competitions were also discussed.

WIRRULLA.—The first meeting of the Branch was held on April 7th, when the officers for the ensuing year were elected. Several new members were proposed and a programme was drawn up for the next four meetings.

WUDINNA, April 7th.—A discussion took place on the season's harvest, and the different methods of cultivation. The matter of crop growing competitions was also discussed.

EASTERN DISTRICT.

(EAST OF MOUNT LOFTY RANGES.)

MONARTO SOUTH (Average annual rainfall, 14in. to 15in.).

March 31st.—Present: 13 members.

Weaning Foals.—Mr. A. P. Braendler contributed a paper on this subject. Foals should not be weaned, he said, until they were at least four months, but preferably five or six months old. Prior to weaning they should be taught to eat hay and hay chaff, and be placed in a paddock or stable in which they should remain whilst being weaned. He would not place the foal in the same paddock as the mother for several weeks afterwards, but it should be well fed with hay chaff and a little bran or oats, and given plenty of water and room to roam about.

RAMCO.

February 26th.—Present: eight members.

The Secretary of the Branch (Mr. J. J. Odgers) contributed a paper entitled "Plant Life," in the course of which he stated that a knowledge of nature and of plant life was needed by the orchardist and farmer. The acts of the gardener and farmer in manuring, in the rotation of crops, budding and grafting, were copied from nature, and a study of plant life gave an increased interest and a better understanding as to why those methods were carried out. He referred to the need for drainage, and the damage caused by seepage. He then referred to the leaves, and the work done by them, and also explained the objects of cinturing. A good discussion took place, and a number of questions were answered by the writer of the paper.

BARMERA, February 27th.—Mr. H. S. Taylor attended the meeting and addressed the members on "What to Plant on a Block," dealing at length with the preparation of the land and the marketing of the produce. He also dealt with the problem of future markets and prices. At a meeting held on March 27th Mr. H. F. Levein lectured on "Drying Fruit and the Dehydrator," after which he answered a number of questions on that subject.

BERRI, March 26th.—Mr. Muspratt addressed the meeting on the "Trellising of Vines," which was followed by a good discussion.

COOMANDOOK, March 7th.—The chairman of the Branch delivered an address on the advantages of being a member of the Agricultural Bureau, after which a discussion took place on the proposed crop growing competitions. Three new members were also proposed.

GLOSSOP, March 28th.—The first homestead meeting of the Branch was held on the properties of Messrs. J. T. Robertson and W. N. Ellis. The Manager of the Berri Experimental Orchard attended, and in the evening addressed the members on "Cotton and Tobacco Growing," after which he answered a number of questions asked by the members.

LONE GUM AND MONASH, March 7th. Present: 18 members.—IRRIGATION.—A paper on this subject, writen by Mr. Berriman, was read by Mr. Nicholas. A good discussion followed regarding the different practices adopted along the River Murray.

MARAMA, April 5th.—The Poultry Expert (Mr. D. F. Laurie) attended the meeting and addressed the members on "Poultry," dealing at length with the production of eggs, the construction of houses and yards, and the most suitable hen for the district, after which he answered a number of questions.

RAMCO, March 26th. Present: eight members.—Mr. H. Green read a paper, entitled "The Business Aspect of Manuring Fruit Trees." A good discussion followed, during which the members agreed that little was known by the growers regarding the constitution of the soil. Mr. A. Jones considered that the land in that district contained a sufficiency of potash, but needed a constitutent to make it more vigorous. Mr. C. Boehm did not agree that the fruit from manured trees kept better than that from unmanured trees. He considered that water shoots produced coarser fruit with thicker skins.

WINKIE, March 26th.—The monthly meeting of the Branch took the form of a Question Box evening, when a number of questions were asked by those present, and an interesting discussion followed.

SOUTH AND HILLS DISTRICT.

BLACKHEATH.

March 30th.—Present: nine members and one visitors.

THE TRAINING OF SHEEP DOGS.—Mr. W. J. Pym contributed a paper on this subject, which was read by Mr. H. G. Pym. The first consideration, he said, was to see that the dog was of the correct breed. The temper of the dog should then be ascertained. If the animal was of a timid nature he should be encouraged

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every time he made an attempt, and treated kindly. Sometimes a dog would take to working sheep more quickly if given a thrashing on making a mistake, and that type of dog was generally preferred to those of a timid nature. The less one had to speak to a dog the better, but in many cases a headstrong animal required considerable training to make him understand that he had to keep with the owner. In sending a young dog to turn sheep it was advisable to tell him to sit down or return before he had quite finished. When young they were very apt to complete the circle, and checking early would prevent that. When the dog returned, and it was desired to send him in the opposite direction, he should be made to pass behind, instead of between the owner and the sheep. In training a dog to drive sheep behind the owner it was a good plan for the owner to go ahead and allow the sheep to break away. The dog should then be made to bring them back, and each time he attempted to come on, he should be made to return to the sheep.

CHERRY GARDENS (Average annual rainfall, 35.03in.).

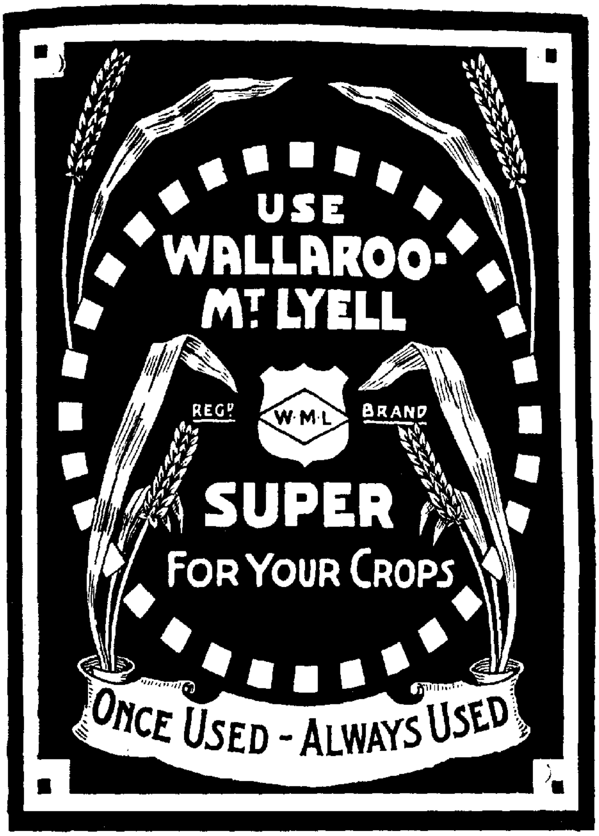
March 27th.—Present: 11 members and one visitor.

Potato Growing.—Mr. H. L. Strange, in a paper on this subject, said that the first and one of the most important items in potato growing was the selection of the seed. That was a very difficult task, because, there being so many different kinds, it was difficult to obtain any one variety pure. He would commence ploughing a month or so before planting. The land should be well worked and free from lumps. The more it was worked before planting the less would it have to be worked afterwards. The rows should be about 2ft. 3in. apart, and the plants about 15in. apart in the rows. Varieties which formed a large number of tubers, such as Up-to-dates and Snowflakes, should be planted not less than 2ft. apart in the rows. Only large and healthy setts, weighing, say, not less than 2ozs., should be planted in order to secure good results. When the potatoes were commencing to come up he would go over them two or three times with a pair of harrows on a dry, warm day to kill the weeds and loosen the ground. A good discussion followed the reading of the paper.

CURRENCY CREEK.

April 6th.—Present: nine members.

Breeding Merino Sheep.—Mr. J. H. Bastian contributed a paper on this subject. The Merino, he said, would thrive much better in the North than in most parts of the south. The saltbush country to the east and north of the Burra was noted for its fine Merino stock. That country grew an abundance of herbage in the winter time, and during the summer the saltbush provided splendid feed for the sheep. Where the climate was moderate, and the country cultivated, that class of sheep could be kept with every satisfaction. A good supply of fresh water was a most essential factor. On the natural grass land he thought the crossbred would do much better than the Merino. If the country was cultivated where possible it would be found that a larger number of sheep could be kept, and they would also remain in better condition than was possible on natural grass land. One great aid to successful breeding was to have a number of small paddocks in readiness for the lambing season; that would enable the farmer frequently to move the ewes from one paddock to another to give them a change of feed. For convenient working, a farm of 1,000 acres should be subdivided into 80-acre sections, all of which should be cultivated once every three years. During the period of idleness a top dressing of superphosphate of from 50lbs. to 100lbs. would greatly increase the carrying capacity of a paddock, and also produce better-conditioned sheep. To commence Merino breeding in the South, fairly strong-woolled sheep were necessary, because Merinos in that portion of the State had a tendency to grow fine and silky wool with age, and to guard against that the sheep should be kept on good feed. Three years ago he took a flock of 400 two-tooth strong-woolled Merino ewes into that country, and last year as full-mouthed ewes they averaged 11½lbs. of wool, besides rearing 80 per cent. of lambs. The chief reason for that was a change of feed every little while and well-cultivated grasses. In selecting Merino ewes, clean-faced animals should be chosen, with wool down to the eye and a dense topknot. The animal should be long, broad, and deep, with a long staple of fairly-strong wool. Too much wrinkle on the neck and open wool on the back should be



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avoided. A good sign, and one that was always noticeable in a show sheep, was a broad, slightly-furrowed nose. He would not condemn a Merino on account of a small amount of wrinkle, however, because it was practically impossible to have a densely-woolled sheep without it. It was generally found that a clean-necked sheep would make a better mother than a heavily-wrinkled one. Great care should also be exercised in the selection of the ram; he preferred a clean-faced sheep, with as big a frame as possible. It should possess a long staple of dense wool extending down to the toe.' Notice should be taken of the shape of the horns, which should always turn well away from the eyes. A small amount of wrinkle on the ram was not detrimental, providing the ewe was fairly free. It was not always advisable for the average farmer to breed the heaviest-woolled sheep, because he generally reared a few lambs for market. A very heavily-woolled sheep would not rear such a good lamb for that purpose as a light-woolled ewe, because both the ewe and the lamb were growing a heavy fleece, and would not fatten so quickly. During the discussion which followed, Mr. Bastian, in answer to a question, stated that all sheep became finer in the wool with age, but it was more marked in the South. Mr. Ritchie agreed that paddocks should be subdivided, thus allowing more changes for the sheep. In answer to a question as to whether it was advisable to crop and feed off with sheep for a time, Mr. Bastian replied that he had 80 acres of wheat became flooded; he fed it right off, and afterwards reaped 16bush. to the acre. Mr. Fuller had seen a paddock eaten right down during September, and, after a good rain it yielded 25bush. to the acre. He thought oats yielded better when eaten down. Mr. Higgins stated that the sheep should be crowded on the land to eat it down quickly. In reply to a question as to whether Merino lambs were not a better paying proposition than the British breeds at the present time, Mr. Bastian stated that they had 80 per cent. Merino lambs, sold at 20s. each, from full-mouthed ewes which cut 11½lbs. wool, selling at 23½d., consequently he was in favor of the Merino. In regard to stinkwort poisoning, Mr. Higgins stated that where other grass grew with the weed the sheep were not liable to become affected, but if they ate the weed alone, there would be trouble and numerous deaths. Mr. Kemp said he lost over 50 sheep last year, in some instances the sheep dying a fortnight after being removed from the paddock. The members were agreed that the weed was more dangerous after rain or heavy dew.

KANGARILLA.

March 2nd.—Present: 14 members and four visitors.

Wattle Growing on Scrub Land.—In a paper on this subject, Mr. L. Smart said that wattle bark grown in that district had superior tanning qualities, and he thought that the wattle-growing industry should be given more attention than at present. It was one of the best paying propositions, and involved very little work in comparison with a vineyard or orchard. Once the land had been cleaned thoroughly and the wattle seed sown, it required practically no attention for four years. Prior to sowing, the bushes and undergrowth should be burnt on a suitable day with not too much wind, and then ploughed with a stump-jump disc plough during September. In March the land should be well harrowed and cultivated to prepare for a crop of oats, which should be drilled in with 1cwt. of super to obtain a good return. During the following year it should again be ploughed, but on that occasion should be sown with wattle seed and oats, the former being previously soaked in boiling water and drilled in at the rate of 2lbs. of seed to the acre; in that way the scrub was killed and the wattles grew quickly. They should be thinned out after five years. After four or five years all the dead limbs and twigs should be trimmed off. Once the wattle paddock was established it was a good practice to go through it each year and trim off all the dead wood; the winter was the most suitable time for that operation. An important practice, and one that should not be overlooked, was to burn all the boughs and leaves that had accumulated during the stripping season. April or May were the best months for burning. During the discussion which followed, Mr. G. Connor stated that wattles could be grown on rough country, the seed should be sown during June, and stripping commenced after about nine years. Other members spoke on the quality of the bark in different soils, and many favored sandy country for producing the best bark, and seed from only selected wattles should be sown.

At a subsequent meeting, the members met at the residence of Mr. R. G. Morphett, when a homestead meeting was held. Members inspected the plots of tomatoes, the chief varieties being Earlianna, Early Dwarf Red, and Large Early Smooth, all of which appeared to be strong and healthy and were in heavy bearing. The potato plots were next inspected, two varieties—Carmen and Snowflake—being grown. On the hillside Mr. Morphett possessed about 200 peach trees, of nine different varieties; 900 apricot trees, chiefly of the Late Moorpark variety; and 200 pears of the Duchess variety. Higher up the hill were 13 acres of vineyard. The apple orchard was next inspected, comprising of 1,500 trees, mostly of the Jonathan, Dunn's Seedling, Cleopatra, and King David varieties. A stream ran through the orchard, and a spray pump was at work pumping water on to a patch of potatoes. Mr. Morphett also possessed a number of cows and heifers. Afternoon tea, provided by Mrs. Morphett, was then partaken of.

LONGWOOD (Average annual rainfall, 37in. to 38in.).

March 31st.—Present: nine members and four visitors.

Homestead Meeting.—The monthly meeting of the Branch was held at the residence of Mr. W. P. Woolcock. An inspection of the orchard was made, and it was noticed that Mr. Woolcock's garden was almost free from woolly blight, which was very prevalent this year. Mr. Woolcock sprayed the trees just as the green tints were showing with red oil 1 gallon in 30 gallons of water. A trial plot of Hubam clover was then inspected, after which the members were shown the irrigation system for watering the garden. After tea, which was provided by Mrs. Woolcock, Mr. Coles read a short paper entitled "Soil Preparation." He emphasised the necessity for adequate drainage, and was of the opinion that

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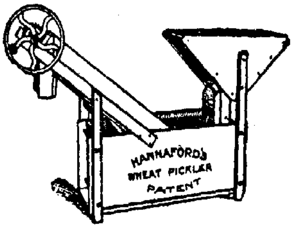

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it was not necessary to apply lime to the land in that district. He had applied it to the soil, and knew of several places where it had been tried, but no benefit had been derived from its application. A good discussion followed the reading of the paper, and several members were of the opinion that lime should be applied to the land.

MACGILLIVRAY (Average annual rainfall, 19in. to 20in.).

March 27th.—Present: eight members.

Seeding.—In a paper on this subject, Mr. Wheaton said the success of a crop depended to a large extent on the manner in which the seeding was done. Whatever the acreage sown, seeding should be well carried out on thoroughly prepared land, or there would be little likelihood of a successful crop at harvesting time. As the best period for working the ground was often short, it was advisable to have the seeding implements, swings, and chains in good order, and ready for a start when the rain came. The seed-bed should be well prepared, firm underneath and loose on top. That condition was best obtained by fallowing and the use of the cultivator. All cereals would give much better returns if sown on land that had been fallowed and on a suitably prepared seedbed. He thought they should have as much fallow as possible, and he would only sow oats for hay and wheat on bare fallow; barley, being sown later, could be put on land that had been sown to fallow crop. He always sowed Cape barley in the hay and wheat stubble. Different soils needed different treatment, but whatever the crop to be sown, the ground should be prepared as soon as possible. The bare fallow would be the first to receive attention, and generally cultivating twice would be all that was necessary if it had been worked before harvest. The first working should be done after the first rains, and the second working just ahead of the drill. The wheat and barley should be pickled with either a 1 per cent. solution of bluestone or formalin to destroy smut; if the latter was used the grain should be sown soon after pickling. He had found that the best crops of hay had always been put in between the 20th and the end of May. He would sow Calcutta oats at the rate of 1½bush. to the acre. June 1st to 15th, he said, was the best period for sowing wheat, and he would sow at the rate of about 1bush. to the acre. The preparation of the fallow crop ground for Pryor barley and the stubble for Cape barley would depend on the soil and season. The fallow might need ploughing, and then cultivating just before drilling, or twice cultivated might suffice. The stubble should be ploughed and then cultivated, or, if too weedy, a second ploughing would be necessary. After sowing the wheat, he would follow by sowing the oats for grain, and then the Cape barley on stubble land, and the malting barley in July, both at the rate of a little over 1bush. to the acre. If peas were grown for sheep, a few acres would be required for seed, and should be sown at the rate of 2bush. to the acre on clean ground by the middle of July. After drilling, the ground should be harrowed; if rain fell just after sowing it could be harrowed any time up till a day or two before the crop came up. The amount of super to be sown with the crop would depend on the soil and the treatment it had received, but from 60lbs. to 1cwt. of 45 per cent. super was an advantage where freight and long cartage were large items. Potatoes should be grown on sandy fallow land, where they could be fenced off easily with wire-netting in case the paddock was wanted before the potatoes were ready to dig. He would cover the soil with a very thin coat of stable manure, and then about September drill or broadcast 2cwt. to 3cwt. of super to the acre and plant the potatoes. He would plant them through a shoot made of galvanized iron so that they went into the second or third furrow made by a four-furrow plough. One man could drive the team whilst the other dropped the potatoes into the shoot. A good discussion followed the reading of the paper.

MORPHETT VALE (Average annual rainfall, 23.32in.).

March 29th.—Present: 11 members.

Early Fallowing.—In a paper on this subject, Mr. A. C. Pocock said he thought it would be preferable to commence ploughing as soon as the crop had been taken off. Then the sod would turn up rough, the clods would be large, and would be exposed to the sun during the summer months. After seeding time was finished the land could be worked to a fine tilth and an endeavor made to kill the weeds that grew during the winter and spring. It was also necessary to cultivate the land during January, February, and March to conserve the moisture and kill the summer weeds. During the discussion which followed, Mr. Christie stated that it was impossible to summer fallow the land during certain years owing to the hardness of the ground. The Secretary (Mr. E. Hunt) did not favor summer fallowing, but preferred to graze the land until the usual time for fallowing during July or August.

BALHANNAH, April 6th.—Mr. E. W. Mattner contributed a paper entitled "Mendel's Law of Heredity." which proved very interesting to those present.

MOUNT PLEASANT, April 13th.—A discussion took place on the exhibit of products of the district arranged by the Branch at the local agricultural show on March 15th.

SOUTH-EAST DISTRICT.

ALLANDALE EAST.

April 13th.—Present: 11 members.

SUMMER FODDER.—The President (Mr. C. C. Griffin) contributed a paper on this subject. There were many kinds of summer fodders that would thrive in that district, he said, and he would recommend maize, Mammoth Purple Top turnips, chou moellier, Sudan grass, Japanese millet, rape, and sorghum. He had tried all of those with the exception of rape, and preferred maize and Purple Top turnips because they were relished by the cattle. This year he had had an acre of maize, and fed 12 head of cattle on it both night and morning for two months, notwithstanding the exceptionally dry year. When drilling in chou moellier he mixed 1lb. of Purple Top turnip seed with 3lbs. of chou moellier to sow six acres—that would be about ¾lb. to the acre. He mixed the seed with 45lbs. of super, and sowed it through every third drill, but owing to October being very dry, it came up in patches only. For turnips he would plough the land to a depth of 4½in. to 5in. if no fallow was available; it should then be harrowed as fine as possible, rolled, and then drilled during September or early October. For maize he would plough to a depth of 5in. and harrow the land as fine as possible. He hand-sowed the maize, using a little over 1bush. to the acre and one bag of superphosphate to the acre. The average height of the maize was 5ft. He had used the same ground for summer fodder for 11 years, and intended to use the same ground again this year. He thought that was an advertisement for the productivity of the land in that district. During the discussion which followed, Mr. Butler said that the ground should be properly worked up and afterwards rolled. Mr. Kieselbach found that where the ground was soft the turnip seeds became buried too deeply. Mr. Griffin said that where the ground was too dry and caked there would be patches where the turnips would not come up, but where the ground was loose they would come up much better. Mr. Kieselbach planted maize at twice the depth of the seed. Mr. Laslett said a drill was not necessary on small holdings. Mr. Butler thought a drill was necessary, especially if sowing 10 or 12 acres. Mr. G. R. Kemp said the best maize to sow in that district was "Ninety Days Red Maize." The plants should be cut at flowering time, before the pods formed. Mr. Griffin said that when the main stalk of the maize was cut it sent out dense sprouts from the bottom, although this year they were not so thick on account of the dry conditions. When sowing turnips and maize he would sow the former a week or so before the maize.

KONGORONG.

March 29th.—Present: six members.

MAINTAINING SOIL FERTILITY.—In a paper on this subject, Mr. F. C. Caine said there was no reason why land should not produce crops for many years in succession in an abundant rainfall area with fair average soils, if treated properly. The old idea of allowing the land to remain in a barren state for years in order to regain its fertility was now obsolete, because not only was the land practically idle, but the process of recovery was too slow. One plan was to grow fodder crops to be fed off, preferably with sheep. A better plan was to sow a mixture of wheat and peas or rape, and when it had reached a height of about 15in. to 18in., generally about July, it should be ploughed under. That would renew a field to a far greater extent than many years of idleness, and in addition was a practical method of dealing with weeds, because the seeds in the land were encouraged to grow with the first autumn rains, and assisted in forming green manure, which he had found to almost equal a liberal dressing of farmyard manure, which was the best. The land was then in a condition to grow a good crop of barley, which could be sown any time during August or early in September, with 70lbs. to 80lbs. of super per acre. The feeding value of the barley stubble was very high, and would often feed four or five sheep to the acre for about two months, thereby further enriching the soil. During the following seasons excellent crops of oats or hay were assured by ploughing early and sowing about the middle of April, or immediately after the first rains. In anticipation of sowing potatoes, the green manure should be ploughed under and allowed to rot—which it did very quickly—and the potatoes sown about October. They could be followed by barley, and then oats or hay. In that way the land could be cropped almost indefinitely, but it was a wise plan not to sow any crop without a fair dressing of fertiliser. If there were any weak places in a field it was advisable to give them a liberal dressing of farmyard manure, and when sowing the crop they should be given the fertiliser in addition, after which very little difference would be noticeable in the field. In sowing for hay he would mix 1½bush. of oats and 10lbs. to 15lbs. of a good hay wheat, preferably Frampton, a variety grown largely in the Ballarat district. It was an excellent hay wheat, possessing a bright, solid, green straw, and was also a good yielder. Hay should always be cut when the stalks of the oats were turning purple; in that way a good color was assured, and the straw was then sweet and greatly relished by stock, and would always command a better price. If a field was to be left idle for a few years, it should be cultivated in the summer and sown with grass seed and fertiliser in the early autumn, when the additional stock it would carry would help greatly to renew the land.

TATIARA (Average annual rainfall, 19½in.).

April 7th.—Present: nine members.

HOW TO MAKE THE BUREAU MORE ATTRACTIVE.—Mr. T. Hill contributed a paper on this subject. He was of the opinion that the Agricultural Bureau should be used more as a connecting link between the Agricultural College and the producers in carrying out experimental and demonstrative work. He thought the farmers were not utilising the benefits offered them by the Department in carrying out experimental work. If variety and manurial tests were carried out, farmers would be able to obtain seed wheat true to type and variety required, and acclimatised to the district. That would be a distinct advantage because it would eventually increase the yield of the district, and, if well advertised, the State generally. He was of the opinion that district was well adapted to the raising of first class seed wheat, because the climatic conditions were so congenial. Farm competitions should be held annually to encourage competition among the producers and for the advancement of agriculture generally. Homestead meetings could also be held occasionally to increase interest in Bureau work. He thought too much attention was given to discussing various subjects which were not of vital interest to producers. A Branch of the Bureau should be run on sound and practical lines, with a producer at the head of it who should carry out experimental work of some kind, and set an example to other members of the Branch. He should endeavor to increase the production, and the carrying capacity of the farm generally. Mr. Hill was of the opinion that members should co-operate in buying first class sires for improving the breed of their stock. During the discussion which followed, members said it was difficult to work co-operatively in keeping stock sires because they required a considerable amount of attention, and expert management. Several members spoke appreciatively of the advice and assistance they had received from the Bureau.

FRANCES, February 24th. Present: eight members and one visitor. The Secretary (Mr. A. M. Herold) read a paper entitled "Liming of Land," which was well discussed.

FRANCES, March 31st.—Arrangements were made in connection with the forthcoming Conference at Kalangadoo. The matter of crop growing competitions was also discussed.